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CORRUGATE COOLER

Abstract

A disposable cooler is provided that, when assembled, is curbside recyclable. Tire cooler includes a lid portion and a. container to which the lid portion is selectively engageable. When the cooler is assembled, it may be watertight such that water does not leak from the bottom and includes handles for easy carrying and transport. The container uses a fully permeable substrate coating on its recyclable corrugate surface that allows it to be curbside recyclable. Neither glue nor fasteners are needed to keep the container or lid portion in place once they are assembled.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS [0001] The present application claims priority to U.S. Provisional Patent Application Ser. No. 63/274,635, filed Nov. 2, 2021, the entire contents of which are hereby incorporated by reference.

FIELD OF INVENTION
[0002] The present invention relates to a cooler made from a corrugate material that can be used for multiple short term uses. The corrugate cooler of the present invention is preferably curbside recyclable.
BACKGROUND OF INVENTION
[0003] Consumers use coolers to keep food or beverages cold. Coolers are often taken on picnics, camping trips, and other outdoor (or sometimes indoor) excursions so that consumers can enjoy the cool contents stored in the cooler away from the luxury of a refrigerator. Typically, ice cubes are placed in the cooler to help the contents inside stay cool. Ice packs are also sometimes used to keep the contents cool.
[0004] Coolers can be made to be durable for frequent, repeated uses, or they may be made to be disposable. As of late, disposable coolers have gained popularity due to their low prices, ease of storage, and convenience. Disposable coolers have historically been made from polystyrene foam that is approximately one inch thick. Unfortunately, the foam disposable coolers are especially hard on the environment, since such foam coolers do not biodegrade and can occupy landfill space for long periods of time.
[0005] Recently, disposable coolers have been made from a corrugate cardboard. Unfortunately, those disposable coolers are also detrimental to the environment. They are not truly recyclable. They are often coated with a wax material that prevents them from being recyclable. Further, they often come pre-assembled, so storing them can be a challenge. Yet other cardboard corrugate coolers are constructed such that they are not watertight, and as such they leak water as ice contained in the cooler melts. An easily storable, recyclable, and watertight cooler is desired that can be used several times before it needs to be recycled.
SUMMARY OF INVENTION
[0006] The present invention provides a disposable cooler that overcomes the shortcomings in the prior art. More particularly, the disposable cooler hereof is a corrugate cooler that provides the consumer with a curbside recyclable solution for a short-term multi-use cooler.
[0007] The cooler of the present disclosure uses a fully permeable substrate coating on its recyclable corrugate surface that allows it to be curbside recyclable. The cooler generally includes each of a container and a lid portion, wherein the lid portion is selectively engageable with the container. Preferably, neither glue nor fasteners are needed to keep the container or lid portion in place once they are assembled.
[0008] The cooler is folded in such a way to make a watertight container. Furthermore, when the cooler is assembled, it includes handles for easy carrying and transport. The cooler, while disposable, is durable enough to withstand several uses.
[0009] These and other aspects and advantages of the present invention will become apparent to

those skilled in the art after considering the following detailed description in connection with the accompanying drawings.

Description

BRIEF DESCRIPTION OF DRAWINGS

[0010] FIG. **1** is a side elevation view of a cooler constructed according to the teachings of the present invention.

[0011] FIG. **2** is a plan view of a container of the cooler of FIG. **1** in an unfolded position.

[0012] FIG. **3** is a partial view of the container of FIG. **2**.

[0013] FIG. **4** illustrates a first step in constructing the container of FIGS. **2** and **3**.

[0014] FIG. **5** illustrates a second step in constructing the container of FIGS. **2**-**4**.

[0015] FIG. **6** illustrates a third step in constructing the container of FIGS. **2**-**5**.

[0016] FIG. **7** illustrates a fourth step in constructing the container of FIGS. **2**-**6**.

[0017] FIG. **8** illustrates a fifth step in constructing the container of FIGS. **2**-**7**.

[0018] FIG. **9** illustrates a final step in constructing the container of FIGS. **2**-**8**.

[0019] FIG. **10** illustrates a plan view of a lid portion of the cooler of FIG. **1** in an unfolded position.

[0020] FIG. **11** illustrates a first step in constructing the lid portion of FIG. **10**.

[0021] FIG. **12** illustrates a second step in constructing the lid portion of FIGS. **10** and **11**.

[0022] FIG. **13** illustrates a third step in constructing the lid portion of FIGS. **10**-**12**.

[0023] FIG. **14** illustrates the lid portion of FIGS. **10**-**13** in an assembled position.

[0024] FIG. **15** illustrates a plan view of an alternatively constructed lid portion.

[0025] The drawings and detailed description presented herein are not intended to limit the disclosure to any particular embodiment disclosed, but to the contrary, the intention is to cover all modifications, equivalents, and alternatives, including alternative materials, falling within the spirit and scope of the present disclosure as defined by the appended claims.

DETAILED DESCRIPTION

[0026] The invention will now be described with reference to the drawing figures, in which like reference numerals refer to like parts throughout. For purposes of clarity in illustrating the characteristics of the present invention, proportional relationships of the elements have not necessarily been maintained in the drawing figures.

[0027] FIG. **1** illustrates a side elevation view of a corrugate cooler **1** constructed according to the teachings hereof. The corrugate cooler **1** generally includes each of a container **5** and a lid portion **10** that is selectively engageable with the container **5**. Each of the container **5** and the lid portion **10** may be made from a corrugate cardboard coated with a coating that allows it to be curbside recyclable. The container **5** and the lid portion **10** may each be provided in an unfolded, unconstructed form in some embodiments. However, when constructed, the container **5** and the lid portion **10** together make up the cooler **1**. The container **5** is preferably constructed not only to be watertight, but it also is preferably configured to provide handle members **15** on both end portions **20** of the container **5** (only one of which is illustrated in FIG. **1**) when constructed.

[0028] FIG. **2** illustrates the container **5** in its unassembled, unfolded form. As illustrated, the container **5** preferably includes opposing side panels **25** and opposing end panels **30** that extend outwardly from a center panel **32**. Four corner panels **35** are preferably located between adjacent side panels **25** and end panels **30**. Extension panels **40** preferably extend outwardly from the end panels **30**. FIG. **3** illustrates an end panel **30**, two corner panels **35**, and an extension panel **40** in greater detail. FIG. **3** further provides that each corner panel **35** includes a crease line **45** that substantially halves each corner panel **35**.

[0029] FIGS. **4**-**13** illustrate various steps that are taken to fold the container **5** into its assembled

form. A user may start on either end of the container **5** as described below before moving to the other end. In a first step, corner panels **35** should be folded along the crease lines **45** such that the corner panels **35** are exterior to the side panel **25** and the end panel **30** that are now substantially upright and abutting one another, as illustrated in FIG. **4**. Two of the corner panels **35** should be folded accordingly to form rearwardly extending tabs **50** that are illustrated in FIG. **5** on one end portion **20** (it should be noted that the other end portion **20** that is not illustrated in the enlarged FIG. **5** would be folded in substantially the same way).

[0030] In a next step illustrated in FIG. **6**, the extending tabs **50** may be folded inwardly toward the end panel **30** until they substantially lie flat against the end panel **30**. End portions **55** of the extending tabs **50** may nearly abut at or near the center of the end panel **30**.

[0031] As provided in FIG. **7**, a user may next fold the extension panel **40** downwardly over the extending tabs **50**. Upon folding the extension panel **40**, it preferably abuts the extending tabs **50**. Next, a user may fold a locking flap **60** located at a distal portion of the extension panel **40** inwardly and under the extending tabs **50**.

[0032] FIG. **8** illustrates the locking flap **60** after it has been tucked under the extending tabs **50**, and thus the flap **60** itself is not visible. When the flap **60** is tucked under the extending tabs **50** and secured therein, the handle **15** is preferably formed that allows a user to tote the container **5** around.

[0033] After the first end is assembled using the above-described process, a user may substantially repeat the above-described process to fold the container **5** into its assembled position on the other end. When the user has completed the process on both ends of the container **5**, it may be in substantially the form illustrated in FIG. **9**. In some embodiments, the opposing side panels **25** may include elongated lid locking tabs **65** that run substantially the length of the side panels **25**. In embodiments where the lid locking tabs **65** are included, in a final step to assemble the container **5**, the locking tabs **65** (which are illustrated as trapezoidal) may be pushed downwardly to be substantially parallel to a bottom panel **70** formed in the container **5** in which ice and beverage can be placed. The lid locking tabs **65** may help support the lid portion **10** once it is assembled using the process described below. Further, the locking tabs **65** may improve the insulation of the cooler **1** by providing a seal between the container **5** and the lid portion **10**.

[0034] When the container **5** is constructed, it may be substantially watertight such that water from melted ice or other liquids are unable to leak from the container **5**. Put another way, the assembled container **5** does not include cracks, holes, or other apertures that are in communication with the external environment that would cause liquid to leak therethrough when the container **5** is in the upright position.

[0035] Because the container **5** may be made from a recyclable material, over time, it may lose its integrity and lead to some leaks. More particularly, in some embodiments, the container **5** may be used approximately five times before the cooler **1** will lose its integrity. The number of uses that the container **5** can withstand may increase or decrease depending on the construction of the container **5**. However, when assembled, there are not areas of the container **5** that are inherently prone to leaking.

[0036] FIG. **10** illustrates the lid portion **10** in its unassembled position. It should be noted that alternatively constructed lid portions are foreseeable, so long as the alternative lid portion is engageable with the container **5**. Because the lid portion **10** serves to cover the container **5**, it does not itself support ice, water, and beverage contained in the cooler **1**, and as such its construction may vary across embodiments.

[0037] In the embodiment illustrated in FIG. **10**, the lid portion **10** generally comprises a center panel **75** with side panels **80** and end panels **85** projecting outwardly therefrom. The panels **80**, **85** are preferably integrally formed with the center panel **75** and foldable relative thereto. The end panels **85** preferably include minor tab members **90** at their distal portions that are able to fold inwardly toward one another on each end panel **85**.

[0038] In a first step illustrated in FIG. **11**, the end panels **85** are preferably folded toward the

center panel **75**, and the tab members **90** are preferably folded inwardly toward one another so that they substantially align with the intersection of the center panel **75** and a side panel **80**.
[0039] Next, as provided in FIG. **12**, a first of the two side panels **80** may be folded over itself such that it covers and secures the tab members **90** within its folded configuration. Projection portions **95** may project from the end of each of the side panels **80**. In the illustrated embodiment, each side panel **80** includes two projection portions **95**, though more or fewer may be provided in alternative embodiments. When the side panel **80** is folded over itself to retain the tab members **90** in place, the projection portions **95** may align with slot members **100** in the center panel **75** but adjacent to the side panel **80**. The slot members **100**, of which two are provided in the illustrated embodiment, are configured to receive and retain the projection portions **95**. When the projection portions **95** and the slot members **100** are engaged with one another, at least one end of the lid portion **5** is preferably assembled, as illustrated in FIG. **13**.
[0040] The above process describes the manner in which one end of the lid portion **10** is assembled, but it should be noted that the process can be repeated to fully assemble the lid portion **10**. The results of repeating that process are illustrated in FIG. **14**, where the lid portion **10** is shown as being fully assembled.
[0041] An alternative lid portion **105** is illustrated in FIG. **15**. The lid portion **105**, like the lid portion **10** may be assembled such that it can mate with the container **5**. The lid portion **105** may be assembled in substantially the same manner as the lid portion **10** but may be somewhat differently shaped and sized, as illustrated.
[0042] Each of the container **5** and the lid portion **10** (or alternatively constructed container or lid portions) are preferably made from a recyclable cardboard corrugate. The corrugate material (at least for the container **5** but also the lid portion **10** in some embodiments) is preferably coated with a recyclable, fully permeated coating. The coating preferably helps to make the container **5** watertight. Furthermore, the construction of the container **5** and the lid portion **10** preferably eliminate the need for glue or fasteners to hold the container **5** and the lid portion **10** in place.
[0043] As is evident from the foregoing description, certain aspects of the present invention are not limited by the particular details of the examples illustrated herein, and it is therefore contemplated that other modifications, applications, variations, or equivalents thereof, will occur to those skilled in the art. Many such changes, modifications, variations and other uses and applications of the present constructions will, however, become apparent to those skilled in the art after considering the specification and the accompanying drawings. In addition, unless mention was made above to the contrary, it should be noted that all of the accompanying drawings are not to scale. All such changes, modifications, variations and other uses in applications which do not depart from the spirit and scope of the present inventions are deemed to be covered by the inventions which are limited only by the claims which follow.

Claims

1. A cooler, the cooler comprising: a lid portion; and a container to which the lid portion is releasably engageable, the container including: a center panel; two side panels extending outwardly from the center panel; two end panels projecting outwardly from the center panel; a corner panel attached to and connected between adjacent side panels and end panels; and wherein the lid portion and the container are made of a corrugate cardboard material and at least an interior of the container is coated with a recyclable substrate.
2. The cooler of claim 1, further comprising a handle on each of the end panels.
3. The cooler of claim 1, wherein the container is substantially watertight.
4. The cooler of claim 1, wherein a portion of the corner panel overlaps with the adjacent end panel.
5. The cooler of claim 4, wherein each end panel comprises a main body and an extension panel,

and wherein the extension panel generally overlaps the main body.
6. The cooler of claim 5, wherein the extension panel overlaps a portion of at least one of the adjacent corner panels.
7. The cooler of claim 6, wherein the end panel is attached to two corner panels, and wherein the extension panel overlaps a portion of each of the two corner panels.
8. The cooler of claim 6, wherein the extension panel further comprises a locking flap positionable under the corner panel.
9. The cooler of claim 1, wherein an upper edge of each side panel terminates in a lid locking tab, and wherein the lid locking tab is substantially parallel with the center panel.
10. The cooler of claim 1, wherein the lid portion comprises: a lid center panel; two lid side panels extending outwardly from the center panel; and two lid end panels extending outwardly from the center panel.
11. The cooler of claim 10, wherein each of the lid end panels comprises a tab member projecting outwardly therefrom and configured to overlap with the adjacent lid side panel.
12. The cooler of claim 11, wherein each of the lid side panels includes a main body and a projection portion, wherein the projection portion substantially overlaps the main body, and wherein the tab member is configured to be received between the main body and the projection portion.
13. The cooler of claim 12, wherein the lid center panel defines slots configured to receive a portion of the projection portion of the lid side panel.
14. A method of assembling a cooler, the method comprising: providing a cooler comprising a container, the cooler container comprising: a center panel; two side panels extending outwardly from the center panel; two end panels projecting outwardly from the center panel; and a corner panel attached to and connected between adjacent side panels and end panels; wherein the container is provided in a substantially planar configuration and at least one side thereof is coated with a recyclable substrate; folding each corner panel so that at least a portion thereof overlaps with the adjacent end panel; securing the overlapping portion of the corner panel to the adjacent end panel; and folding each side panel upward so that each side panel is substantially perpendicular to the center panel.
15. The method of claim 14, further comprising: providing a lid portion releasably engageable with the cooler container, wherein the lid portion comprises: a lid center panel; two lid side panels extending outwardly from the center panel; and two lid end panels extending outwardly from the center panel; wherein the lid portion is provided in a substantially planar configuration; and folding each lid side panel and lid end panel so that the lid side panels and the lid end panels are substantially perpendicular to the lid center panel.
16. The method of claim 15, wherein each lid end panel comprises a tab member projecting outwardly therefrom, and wherein the method further comprises folding each tab member inwardly so that each tab member substantially overlaps the adjacent lid side panel.
17. The method of claim 14, wherein the cooler is substantially watertight.
18. The method of claim 14, wherein each end panel comprises a main body and an extension panel and the method further comprises: folding the main body upward so that it is substantially perpendicular to the center panel; and folding the extension panel so that the extension panel overlaps the main body and captures the overlapped corner panel portion therebetween.
19. The method of claim 18, wherein the extension panel further comprises a locking flap and the method further comprises folding the locking flap so that it extends between the overlapped corner panel portion and the main body.
20. The method of claim 14, wherein the cooler is assemblable without using glue or fasteners.