



(12) **DEMANDE DE BREVET CANADIEN
CANADIAN PATENT APPLICATION**

(13) **A1**

(86) Date de dépôt PCT/PCT Filing Date: 2019/07/12
(87) Date publication PCT/PCT Publication Date: 2020/01/16
(85) Entrée phase nationale/National Entry: 2021/01/07
(86) N° demande PCT/PCT Application No.: US 2019/041694
(87) N° publication PCT/PCT Publication No.: 2020/014665
(30) Priorité/Priority: 2018/07/13 (US62/697,778)

(51) Cl.Int./Int.Cl. *B65D 65/02* (2006.01),
B65D 33/00 (2006.01), *B65D 5/56* (2006.01)
(71) Demandeurs/Applicants:
TWIN RIVERS PAPER COMPANY LLC, US;
BEGIN, JASMINE, CA
(72) Inventeurs/Inventors:
BEGIN, JASMINE, CA;
MCALARY, BRIAN, US;
THIBODEAU, DANIELLE, US;
ROCKWOOD, DAVID, US
(74) Agent: MOFFAT & CO.

(54) Titre : EMBALLAGE ALIMENTAIRE RECYCLABLE ET ABSORBANT
(54) Title: RECYCLABLE AND ABSORBENT FOOD PACKAGING

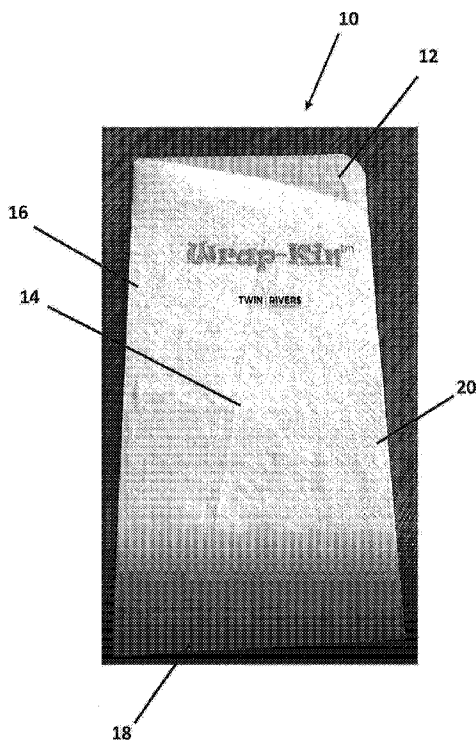


FIGURE 1

(57) Abrégé/Abstract:

The present invention provides a disposable and recyclable food product package having a first inner surface, the first inner surface being constituted of a food-safe material, the first surface being constituted of a recyclable material, a second external surface constituted of an absorbent material, the second surface being constituted of a recyclable material such that the first inner surface abuts and is secured to the second external surface.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(10) International Publication Number
WO 2020/014665 A1

(43) International Publication Date
16 January 2020 (16.01.2020)

(51) International Patent Classification:

B65D 65/02 (2006.01) *B65D 33/00* (2006.01)
B65D 5/56 (2006.01)

(21) International Application Number:

PCT/US2019/041694

(22) International Filing Date:

12 July 2019 (12.07.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/697,778 13 July 2018 (13.07.2018) US

(71) Applicant: **TWIN RIVERS PAPER COMPANY LLC**
[US/US]; 82 Bridge Avenue, Madawaska, ME 04756 (US).

(72) Inventor; and

(71) Applicant: **BEGIN, Jasmine** [CA/CA]; 756 Dickens Avenue, Ottawa, ON K1G 2X8 (CA).

(72) Inventors: **MCALARY, Brian**; 82 Bridge Avenue, Madawaska, ME 04756 (US). **THIBODEAU, Danielle**; 82 Bridge Avenue, Madawaska, ME 04756 (US). **ROCKWOOD, David**; 501 West Main Street, Little Falls, NY 13365 (US).

(74) Agent: **FROMM, Adam, J.**; Clark Hill PLC, 130 East Randolph Street, Suite 3900, Chicago, IL 60601 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: RECYCLABLE AND ABSORBENT FOOD PACKAGING

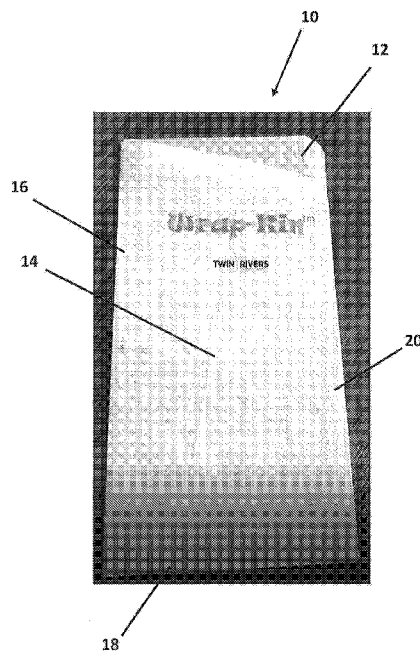


FIGURE 1

(57) Abstract: The present invention provides a disposable and recyclable food product package having a first inner surface, the first inner surface being constituted of a food-safe material, the first surface being constituted of a recyclable material, a second external surface constituted of an absorbent material, the second surface being constituted of a recyclable material such that the first inner surface abuts and is secured to the second external surface.



WO 2020/014665 A1

RECYCLABLE AND ABSORBENT FOOD PACKAGING

Field

The present invention relates to disposable packaging for food items.

Background

5 Various disposable packaging solutions have been developed that can incorporate a variety of materials, including polymers, paper products including waxed papers and cardboards, and various metal foils. The materials used in a particular package will depend on the type of product being packaged, as some materials are better suited to containing a liquid food product, while other materials can be airtight or breathable, and some materials may be less reactive or durable than others. As such, the material chosen
10 for a specific type of packaging largely depends on the type of food product being stored.

However, many commonly used food packaging materials are not readily recyclable and given that such packages are often immediately disposed after the food product is consumed, any non-recyclable materials that are employed can result in the generation of a significant amount of waste that will often be destined for landfill.

15 Moreover, many food products that are packaged in disposable packaging solutions are consumed “on the go” and as a result a consumer of these products also utilizes a number of other disposable items while consuming the initial food product. For example, a consumer who is enjoying a bag of popcorn, a soft drink or an ice cream sundae may also utilize a disposable napkin, straw or spoon as the case may be.

As a result, the consumption of convenience or “fast” foods can generate a significant amount of waste
20 given that many of the items and utensils that are used during consumption of these foods are not reusable products.

Particularly, in the case of many prepackaged foods such as potato chips or candy bars, the food product itself may be moist, crumbly, sticky or oily and as a result can necessitate to use of multiple disposable napkins, thereby potentially creating a significant amount of waste during the consumption of a single food product.

- 5 Therefore, there is need for a packaging solution that is recyclable, reduces the amount of waste that a consumer generates and which is suitable for safely and securely storing a variety of food products in an effective manner.

Brief Summary

10 It is contemplated that the present invention can provide a packaging solution that is recyclable, reduces the amount of waste that a consumer generates and which is suitable for safely and securely storing a variety of food products in an effective manner.

In at least one embodiment it is contemplated that the present invention provides a disposable and recyclable food product packaging material, having a first inner surface, the first inner surface being constituted of a food-safe material, the first surface being constituted of a recyclable material, a second 15 external surface constituted of an absorbent material, the second surface being constituted of a recyclable material, such that the first inner surface abuts and is secured to the second external surface.

In at least one embodiment it is contemplated that the present invention provides a disposable and recyclable food product package, having an internal cavity having a first inner surface, the first inner surface being constituted of a food-safe material, the first surface being constituted of a recyclable 20 material, a second external surface constituted of an absorbent material, the second surface being constituted of a recyclable material such that the first inner surface abuts and is secured to the second external surface.

In another embodiment it is contemplated that the present invention provides a disposable and recyclable food product wrapper having a first surface having a first planar area, the first surface being constituted of a food-safe material, the first surface being constituted of a recyclable material, a second surface having a second planar area that generally corresponds to the first planar area, the second surface being constituted of an absorbent material, the second surface being constituted of a recyclable material, such that the first surface abuts and is secured to the second surface.

Description of the Figures

The present invention will be better understood in connection with the following Figure, in which:

Figure 1 is a depiction of a disposable and recyclable food product package in accordance with at least one embodiment of the present invention.

Detailed Description of the Embodiments

It is contemplated that the present invention can provide a packaging solution that is recyclable, reduces the amount of waste that a consumer generates and which is suitable for safely and securely storing a variety of food products in an effective manner.

As will be readily understood by the skilled person, the present invention can be formed out of a number of suitable materials provided that they are recyclable, food safe, printable and provide the requisite absorbent qualities that are required by the end user application of the present invention. Examples of suitable materials include but are not limited to waxed papers, paper products, polymers and metallic foils, among any other suitable materials having the requisite qualities as discussed herein.

In at least one embodiment, it is contemplated that the present invention is constituted of oil and grease resistant (“OGR”) paper that is laminated (or, in an analogous manner for the present context, adhered) to suitably absorbent paper. In these embodiments, it is contemplated that any suitable OGR paper can be

used and that a suitable absorbent paper includes but is not limited to absorbent papers that are comprised of spun-bonded fibres, synthetic fibres and traditional high-loft 'non-woven' fibers.

It is further contemplated that suitable adhesives can include but are not limited to food-grade polyvinyl alcohol (PVOH) or polyvinyl acetate (PVA) adhesives, although other arrangements are also
5 contemplated.

In some embodiments, it is contemplated that present invention is manufactured such that a first inner surface is adhered to a second external surface through application of a suitable adhesive that is disposed continuous in nearly complete coverage between the two abutting surfaces, such that the first inner surface cannot be readily detached from the second external surface.

10 In other embodiments, it is contemplated that the adhesive can be applied in discrete, localized areas (such as for example, the perimeter of the abutting surfaces), such that the first inner surface can be readily detached from the second external surface, as will be readily appreciated by the skilled person.

It will be also readily understood that the present invention can be manufactured by any suitable manufacturing technique that will be apparent to the skilled person.

15 It will be also readily understood that the present invention can take any number of sizes or shapes as required by the end user application of the present invention. For example, it is contemplated that the present invention can take the form of a sheet, cup, bag, pouch, wrapper, open-ended container and it is contemplated that some embodiments of the present invention may or may not include an opening that is capable of being sealed (and, in some embodiment, resealed) to preserve the freshness of the packaged
20 food. It will be further appreciated that the present invention may be printable with food-safe inks.

In some embodiments, the present invention will include a non-permanent sealed closure that has been scored such that the package can be readily torn open. In other embodiments it is contemplated that the present invention can include a resealable closure.

In at least one embodiment, the present invention provides a disposable and recyclable food product package having an internal cavity that has a first inner surface. It is contemplated that the internal cavity can be sized in any number of suitable shapes and can be closed or open-ended depending on the end-user application.

- 5 It is further contemplated that the first inner surface is constituted of a food-safe material that is also a recyclable material.

The disposable and recyclable food product package also has a second external surface that extends substantially across the entirety of the outer surface of the package. The second external surface is constituted of an absorbent material that is also a recyclable material.

- 10 It is further contemplated that, in at least some embodiments, the first inner surface abuts and is secured to the second external surface. In some embodiments it is contemplated that the first surface is fused to the second surface, while in other embodiments it is contemplated that the two surfaces may be adhered or laminated together or formed integrally with one another, depending on the specific materials that are selected.

- 15 In another embodiment, the present invention provides a disposable and recyclable food product wrapper having a first surface that has a first planar area. It is contemplated that the first planar area can be sized in any number of suitable shapes depending on the end-user application.

It is further contemplated that the first surface is constituted of a food-safe material that is also a recyclable material.

- 20 The disposable and recyclable food product wrapper also has a second surface that has a second planar area that generally corresponds to the first planar area and as such can be sized in any number of suitable shapes depending on the end-user application. In some embodiments it is contemplated that the first planar area and the second planar area are essentially identical and as such are co-extensive and

coterminous however it will be readily appreciated that it is contemplated that the first planar area and the second planar area can deviate from one another with respect to both size and shape in some embodiments.

It is further contemplated that the second surface is constituted of a food-safe material that is also a
5 recyclable material.

It is further contemplated that the first surface abuts and is secured to the second surface. In some embodiments it is contemplated that the first surface is fused to the second surface, while in other embodiments it is contemplated that the two surfaces may be adhered together or formed integrally with one another, depending on the specific materials that are selected.

10 **Method of Manufacture**

As discussed herein, it is contemplated that the present invention can be manufactured using a number of suitable manufacturing techniques, as will be readily understood by the skilled person.

In at least one embodiment, it is contemplated that a suitable adhesive is coated in full-coverage across the material that comprises the first inner surface in a continuous fashion with a known adhesive coat
15 weight in order to bond the first inner surface and the second external surface in a continuous lamination arrangement.

In these embodiments it is contemplated that the resultant combined laminated and abutting surfaces can subsequently be wound on a master roll for storage, transport and subsequent manufacturing process steps as required by the end-user application of the present invention.

20 In some embodiments, it is contemplated that individual articles may be defined by perforations provided in the combined laminated and abutting surfaces, such that the individual articles can be subsequently separated as required by the end-user application of the present invention.

It is contemplated that the coat weight of the adhesive can be pre-determined such that a sufficient amount of adhesive mass is provided to bond the two surfaces together, but not in excess such that adhesive “strikes-through” or bleeds through the surfaces during the compression of the laminated surfaces. It is further contemplated that the combined masses of first inner surface and the second external surface will be sufficient to draw the carrier fluid of the adhesive (such as, but not limited to, water) away from the site of adhesion and the resulting adhesive solidifies to create a permanent bond. In some embodiments, it is contemplated that such absorptive ‘drying’ can take place within minutes without the need for heated air to create the desired bond between the surfaces, as will be readily appreciated by the skilled person.

10 It is further contemplated that the lamination pressure can also be pre-determined such that a minimum force required is determined and applied to the resulting laminated surfaces in order to create an intimate bond between the two surfaces in order to avoid ‘calendering’ out the loft and absorbency of the material that comprises these surfaces, as will be readily appreciated by the skilled person.

15 It is further contemplated that a master roll of material that comprises the first inner surface can be slit into narrower widths for printing, if desired, followed by sheeting into print-registered individual articles for immediate use. It is contemplated that any such resulting sheets can be provided in any suitable dimensions such as but not limited to 12” x 12” as will be appreciated by the skilled person. Moreover, it is contemplated that larger articles can be made from the master roll and subsequently cut to form smaller ready-to-use blank articles.

20 **Example**

Turning to **Figure 1**, at least one embodiment of the present invention is depicted wherein the disposable and recyclable food product package **10** is provided in a wrapper or partial-pouch article.

In this embodiment, it is contemplated that package **10** has a first inner surface **12** and a second external surface **14**. In this embodiment, first inner surface **12** is an oil and grease resistant paper (such as Twin Rivers™ “OGR” paper - 18#-22# white) and second external surface **14** is an absorbent tissue (such as tissue paper made from traditional high-loft ‘non-woven’ fiber).

5 In this embodiment, it will be contemplated that package is comprised of a first laminated front component that is bonded to a second laminated rear component, although countless other arrangements are also contemplated. Each of first laminated front component and second laminated rear component are comprised of first inner surface **12** suitably laminated to second external surface **14**, as discussed herein.

10 In this embodiment, a first laminated front component is a generally planar and trapezoidal and is oriented in a generally opposing manner to a second laminated rear component, which is generally rectangular. It is contemplated that the first laminated front component is adhered to the second laminated rear component along a first perimeter edge **16** and a second perimeter edge **18**. Moreover, in this embodiment it is contemplated that the first laminated front component is not adhered to the second laminated rear component along a third perimeter edge **18**.

15 In this way, it will be appreciated that package **10** provides at least a partial inner cavity between the first laminated front component and the second laminated rear component. Moreover, given that each of the first laminated front component and the second laminated rear component are comprised of first inner surface **12** suitably laminated to second external surface **14** and that the first laminated front component is oriented in a generally opposed manner to the second laminated rear component, the resulting inner cavity
20 is fully lined with first inner surface **12**. Moreover, it will be appreciated that package **10** is fully enveloped with second external surface **14**.

Therefore, the present invention provides a packaging solution that is suitable for containing a food product within an inner surface and which has an external surface that is suitable for functioning as an absorbent napkin.

As a result, the present invention provides a packaging solution that is recyclable, reduces the amount of waste that a consumer generates and which is suitable for safely and securely storing a variety of food products in an effective manner.

While the present invention has been described with reference to particular embodiments it will be
5 apparent to anyone skilled in the art that there are many permutations and combinations of
combining the primary response variables to achieve particular benefits. All such permutations
and combinations are considered to be within the sphere and scope of this invention as defined in
the claims appended hereto.

WHAT IS CLAIMED IS:

1. A disposable and recyclable food product packaging material, comprising:

A first inner surface, the first inner surface being constituted of a food-safe material, the first surface being constituted of a recyclable material;

a second external surface constituted of an absorbent material, the second surface being constituted of a recyclable material;

wherein the first inner surface abuts and is secured to the second external surface.

2. The disposable and recyclable food product packaging material of claim 1, wherein the first inner surface is secured to the second external surface by way of an adhesive.

3. The disposable and recyclable food product packaging material of claim 2, wherein the adhesive is disposed between the first inner surface and the second external surface in a continuous manner, such that the first inner surface cannot be readily separated from the second external surface.

4. The disposable and recyclable food product packaging material of claim 2, wherein the adhesive is disposed between the first inner surface and the second external surface in a discrete manner, such that the first inner surface can be readily separated from the second external surface.

5. A disposable and recyclable food product wrapper, comprising

a first surface having a first planar area, the first surface being constituted of a food-safe material, the first surface being constituted of a recyclable material;

a second surface having a second planar area that generally corresponds to the first planar area, the second surface being constituted of an absorbent material, the second surface being constituted of a recyclable material;

wherein the first surface abuts and is secured to the second surface.

6. The disposable and recyclable food product packaging wrapper of claim 5, wherein the first inner surface is secured to the second external surface by way of an adhesive.

7. The disposable and recyclable food product packaging wrapper of claim 6, wherein the adhesive is disposed between the first inner surface and the second external surface in a continuous manner, such that the first inner surface cannot be readily separated from the second external surface.

8. The disposable and recyclable food product packaging wrapper of claim 6, wherein the adhesive is disposed between the first inner surface and the second external surface in a discrete manner, such that the first inner surface can be readily separated from the second external surface.

9. A disposable and recyclable food product package, comprising

an internal cavity having a first inner surface, the first inner surface being constituted of a food-safe material, the first surface being constituted of a recyclable material;

a second external surface constituted of an absorbent material, the second surface being constituted of a recyclable material;

wherein the first inner surface abuts and is secured to the second external surface.

10. The disposable and recyclable food product package of claim 9, wherein the internal cavity communicates with an opening.

11. The disposable and recyclable food product package of claim 10, wherein the opening is selected from the group of: a resealable opening, a heat-sealed opening and a perforated, non-resealable opening.

12. The disposable and recyclable food product package of claim 9, wherein the first inner surface is secured to the second external surface by way of an adhesive.

13. The disposable and recyclable food product package of claim 12, wherein the adhesive is disposed between the first inner surface and the second external surface in a continuous manner, such that the first inner surface cannot be readily separated from the second external surface.

14. The disposable and recyclable food product package of claim 12, wherein the adhesive is disposed between the first inner surface and the second external surface in a discrete manner, such that the first inner surface can be readily separated from the second external surface.

15. A method of manufacturing a disposable and recyclable food product packaging material, comprising the steps of:

providing a first component constituted of a food-safe material, the first component being constituted of a recyclable material;

Providing a second component such that it at least partially abuts the first component, the second component constituted of an absorbent material, the second surface being constituted of a recyclable material;

Laminating the first component to the second component to result in a laminated disposable and recyclable food product packaging material.

16. The method of claim 15, wherein the step of laminating the first component to the second component further comprises:

Depositing an adhesive between abutting portions of the first component and the second component.

17. The method of claim 16, wherein the step of laminating the first component to the second component further comprises:

Applying a predetermined pressure to the abutting portions of the first component and the second component.

18. The method of claim 15, further comprising the step of:

Drying the laminated disposable and recyclable food product packaging material.

19. The method of claim 15, further comprising the step of:

perforating the laminated disposable and recyclable food product packaging material.

20. The method of claim 15, further comprising the step of:

storing the laminated disposable and recyclable food product packaging material on a roll.

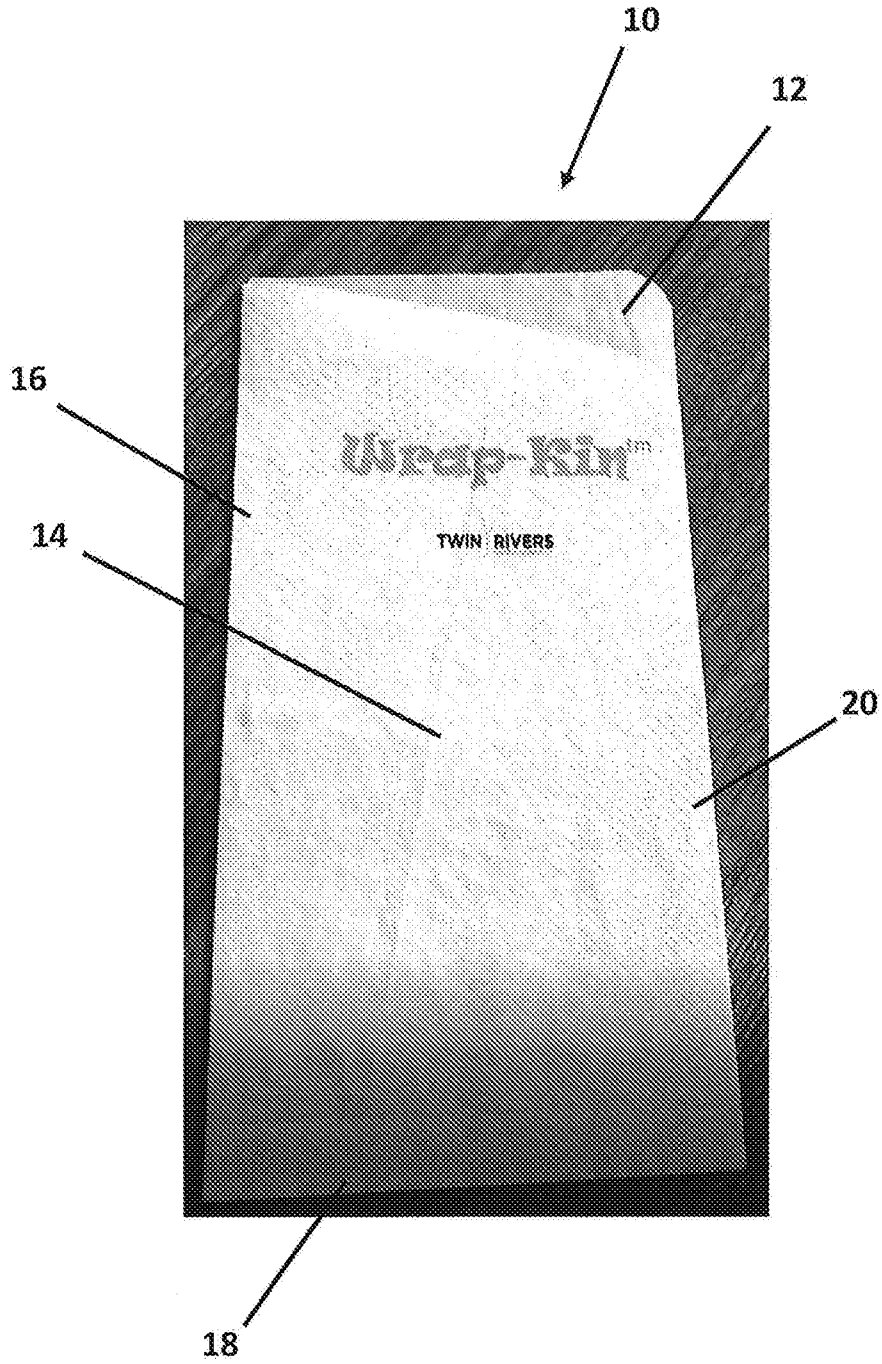


FIGURE 1

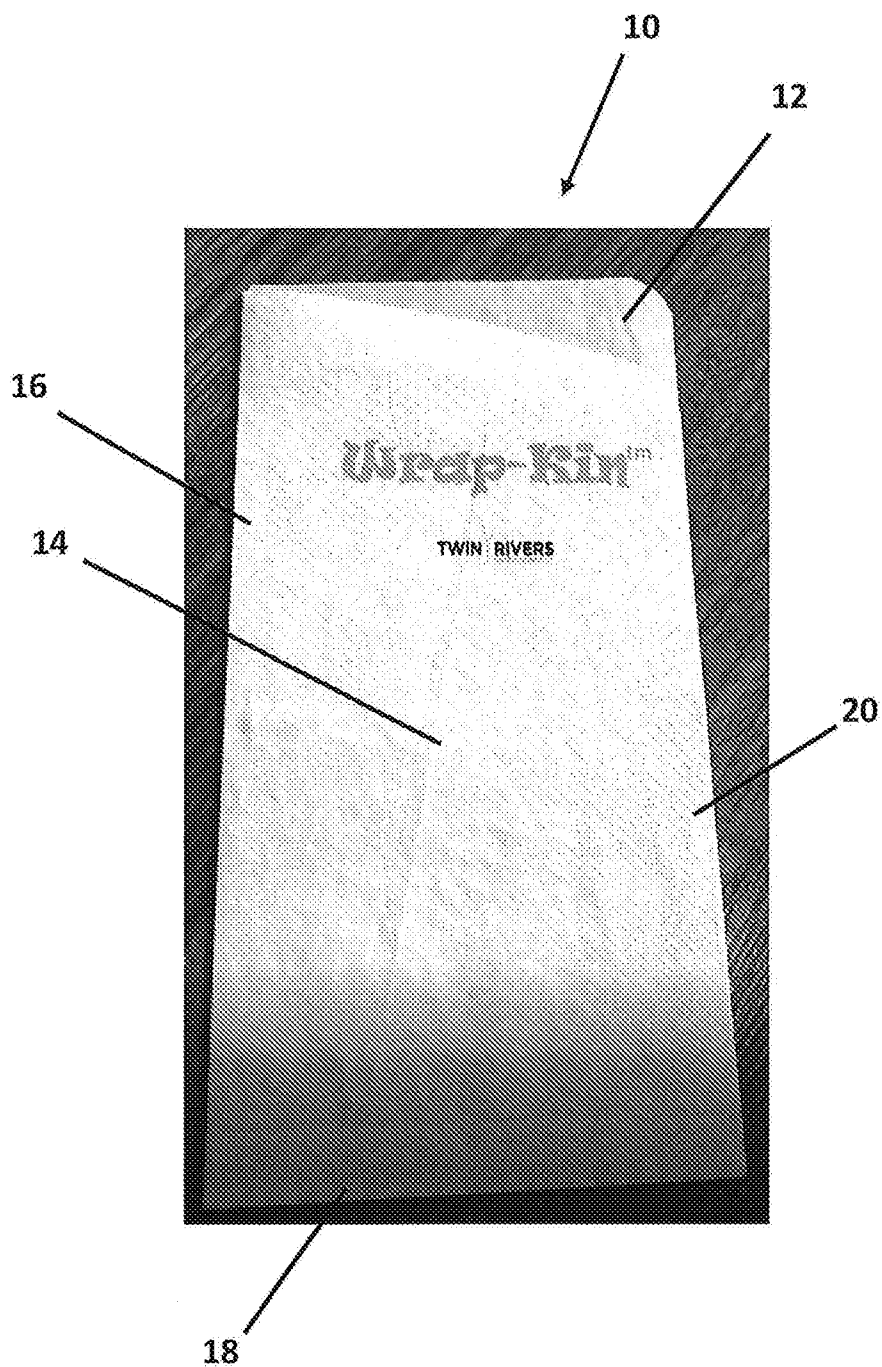


FIGURE 1