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(54) Improved packaging for moist towelettes

(57) A package and/or system for containing and dispensing disposable wipes, such package/system constructed and configured to enhance automation, facilitate economical modification and promote consumer product satisfaction.

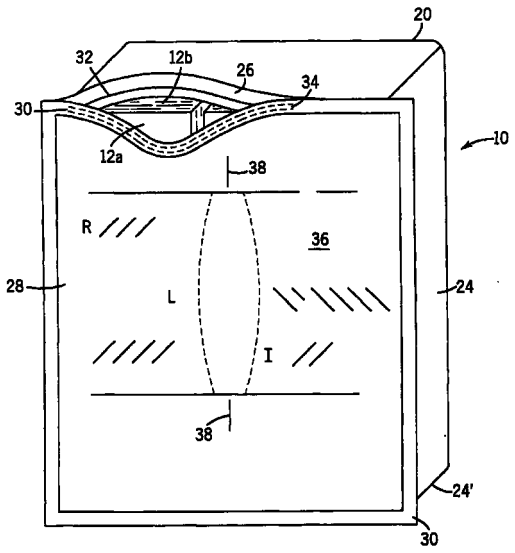

FIG. 2

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Description

[0001] This invention relates generally to a package system, and more particularly. to a package for premoistened, disposable towelettes such as baby wipes. The aforementioned package is resealable and positions the premoistened product so as to conserve moisture content.

[0002] Premoistened towelettes designed for infant and baby care are well-known and popular items. Such towelettes, commonly referred to by those in the art as "baby wipes," greatly simplify infant and baby care and provide a convenience to caregivers.

[0003] For a number of reasons, baby wipes have unique packaging requirements. To prevent evaporation of the moisturizing fluids, baby wipe packages and containers must be provided with tight-fitting lids, covers or other closure means. At the same time, such packages should be easy to open and ensure that the premoistened towelettes remain moist In view of these requirements, a variety of sophisticated baby wipe packages and containers have been developed.

[0004] Initially, premoistened towelettes were placed in hard, rigid containers. The rigid containers were bulky and could not be carried easily. Furthermore, the rigid containers filled valuable space when transported. Upon removing towelettes from the rigid container, the rigid package maintained its shape filling needed space in diaper bags, purses and closets or the like.

[0005] To overcome the disadvantages of rigid containers, manufacturers began using pre-made pliable bags to package premoistened towelettes. In such bags, the premoistened, disposable towelettes are horizontally stacked on top one another. The bags are usually made from a plastic film. Given current production methods, the color or the pattern of the film cannot be easily changed without substantial expenditure of time and resources. This problem is significant in the situation involving a private label company having numerous customers. A large inventory of materials and production supplies is necessary to meet the needs of each customer.

[0006] Another disadvantage of the prior art is that due to the horizontal stacking of the towelettes, the moisturizing material migrates downward by gravity over time. As a result, the uppermost towelettes become dry, while the lower items are beyond saturation. Moisture inconsistency from one towelette to another represents a significant source of product failure and consumer dissatisfaction.

[0007] In light of the foregoing it is an object of the present invention to provide a new and improved package, system and/or method for containing and dispensing paper towel products, in particular premoistened baby wipes. This invention overcomes various problems and deficiencies of the prior art including those discussed in the preceding text. It will be understood by those skilled in the art that one or more aspects of this invention can meet certain objectives, while one or more other aspects can meet certain other objectives. Each objective may not apply equally, in all its respects, to every aspect of this invention. As such, the following objects can be viewed in the alternative with respect to any one aspect of this invention.

[0008] It is a further object of this present invention to provide a package for baby wipes that is economical to design, redesign, manufacture and fill.

[0009] It is another object of this present invention to provide a package system and configuration for premoistened towelettes such that each individual towelette can be used in conjunction with its position within the package to retain its moisture content.

[0010] Yet another object of this invention is to provide a new and improved system and method for packaging premoistened towelettes wherein the package can accommodate any size, shape or count of premoistened towelettes. A related object is the capability to quickly and economically change the size or volume of a package in relation to the size, shape or count of the items contained therein.

[0011] Another object of this present invention is to provide an improved system for premoistened towelettes such that the package label can be easily and quickly designed and prepared to meet the specific requirements of a particular purveyor of such products.

[0012] Other objects, features and advantages of the present invention will be apparent from this summary and its descriptions of various preferred embodiments, and will be readily apparent to those skilled in the art having knowledge of various package systems and configurations for the products described herein. Such objects, features, and advantages will be apparent from the above as taken in conjunction with the accompanying examples, figures and all reasonable inferences to be drawn therefrom.

[0013] In part, this invention provides a package for premoistened, disposable wipes. The wipes can be arranged in one or more stacks. Preferably, each such stack has four sides, a tail end and a head end. The stack or stacks can be arranged in a flexible, moisture-retentive first membrane typically made from a plastic material, although any type of flexible or semi-flexible moisture-retentive material may be used. The first membrane of such a package can be open-ended with five sides to define an interior cavity. The wipes can be placed inside this cavity which preferably has a size and shape conforming to the stack or stacks. A peripheral edge extends outward from the center of the cavity along the open end of the cavity.

[0014] A second flexible, moisture-retentive membrane may be disposed over the interior cavity containing the premoistened disposable stacks. The second membrane, which can be used for labeling and other product/content information, can also have a peripheral portion overlying the peripheral edge of the first mem-

brane. The peripheral edge and peripheral portion are in sealed engagement, and can be joined together by heat sonic frequencies, radiation or any other means known to those skilled in the art of such packaging.

[0015] In one of numerous possible embodiments of this invention, the peripheral portion of the second membrane seals three peripheral edges of the first membrane. The remaining peripheral portion and peripheral edge can be in resealable engagement with one another by a tongue and groove mechanism. One such mechanism is commonly known as a zip-loc™ seal. However, any suitable means can be used to resealably join the peripheral edge to the peripheral portion, such means including adhesives, snaps and zippers. In highly preferred embodiments premoistened towelettes are packaged so that the membranes are engaged under vacuum or otherwise reduced atmospheric pressure. Where applicable, the head end of each stack is preferably aligned with the resealable peripheral portion and peripheral edge. The tail end of each premoistened towelette stack and the corresponding side of the first membrane can then be aligned to stand the package stably on end. The second membrane can be printed with information regarding product contents and the package positioned upright when placed on such a side.

[0016] In part, the present invention includes a method of using a packaging system and/or the position of disposable wipes therein to conserve the relative percentage of moisture content within each individual wipe. Such a method includes (1) providing a first package membrane formed of a flexible, moisture-retentive material, with such a membrane defining an open-ended five-sided interior cavity; (2) placing at least one disposable wipe stack within the interior cavity, with each stack including a plurality of premoistened, disposable wipes and each stack having four sides, a tail end and a head; (3) providing a second package membrane formed of a flexible moisture-retentive material disposed over the open end of the interior cavity, such that the second membrane is in sealed engagement with the first membrane; and (4) positioning the package on the side of the first membrane corresponding to the tail end of each stack of disposable wipes. In preferred embodiments, a plurality of such stacks are arranged across the interior cavity.

[0017] In highly preferred embodiments, the first package membrane includes a peripheral edge around the open end of the interior cavity. A peripheral portion of the second package membrane can be sealed to the peripheral edge of the first membrane. Likewise, in highly preferred embodiments, the first and second membranes are sealed under vacuum. Regardless, at least one peripheral edge of the first membrane and the corresponding peripheral portion of the second membrane can resealably engage one another. Where the package is rectangular, the peripheral portion of the second membrane seals three peripheral edges of the first membrane, such that the remaining peripheral portion and peripheral edge resealably engage one another. As discussed more fully above, various means and mechanisms well known to those skilled in the art can be incorporated into the package and its component membranes to effect resealable engagement. A tongue/groove configuration between such membrane edges/portions is preferred. One such tongue/groove mechanism is available under the zip-loc™ trade name. An adhesive relationship between the membranes can also be utilized with equal effect.

[0018] As described more fully below, the package of this invention allows for vertical alignment of stacks therein. Such alignment in turn, permits the package to be positioned upright during periods of non-use. Preparation of a single covering membrane provides for readable label information, as can be economically modified to meet customer or end-use requirements. On the market shelf; a package so positioned presents an attractive informative display. At home, the product is easily accessed. All the while, the relative moisture content of each wipe or towelette item is conserved-enhancing product performance and customer satisfaction.

[0019] The membrane construction and/or configuration of the present invention provides the added benefit of increased automation potentional. More packages can be prepared in less time than otherwise possible using the methods and bags of the prior art.

[0020] The invention may be carried into practice in various ways and some embodiments will now be described by way of example with reference to the accompanying drawings; in which

FIGURE 1 is an exploded isometric view of a package system in accordance with the present invention.

FIGURE 2 is an isometric view of a package system partially-opened in accordance with the present invention.

[0021] As shown in FIG. 1, package and/or system 10 of the present invention includes one or more stacks 12a of individual disposal wipe items 12b. Stacks 12a can be provided, consistent with this invention, in any geometric configuration. However, as shown in the embodiment of FIG. 1, each stack 12a is configured to provide tail end 14, head end 16, and remaining sides 18.

[0022] The configuration of stacks 12a can determine the special arrangement of first membrane 20. As shown in FIG. 1, stacks 12a - both individually and collectively - provide a rectangular configuration accommodated by an interior cavity 22 of membrane 20 formed by sides 24. In particular, and for purposes of illustration, one side 24' is designated to correspond to tail end 14 of each stack 12a.

[0023] As also shown in FIG. 1, first membrane 20 includes peripheral edge 26 which can be joined in

sealed engagement with peripheral portion 30 of second membrane 28. Such engagement of peripheral portion 30 with peripheral edge 26, with or without vacuum pressures, serves to contain stacks 12a within package 10 for storage, display and later dispensable use.

[0024] As best shown in FIG. 2, at least one peripheral edge 26 of first membrane 20 can be resealably engaged with at least one corresponding peripheral portion 30 of second membrane 28. Resealable engagement can be accomplished by a variety of methods and mechanisms well known to those skilled in the art. However, the package of FIG. 2 illustrates one such preferred mechanism: configuration of peripheral portion 26 with raised tongue 32 to provide a mating relationship with groove 34 of second membrane peripheral portion 30. Resealable edge 26 and portion 30 are partially disengaged to show a vertical positioning of stacks 12a and component wipe items 12b within the aforementioned interior cavity of first membrane 20.

[0025] FIG. 2 also shows, illustratively, the use of second membrane 28 to provide package 10 with particular labeling, product or content information member 36. Such label/information 36 can be incorporated directly into second membrane 28 during printing or formation, or applied separately thereafter. Regardless, in preferred embodiments, label/information 36 is readable as package 10 is positioned upright on side 24'. Positioning package 10 in this manner provides a vertical orientation of stack(s) 12a such that tail end(s) 14 are aligned with side 24'.

[0026] FIG. 2 also illustrates another embodiment of package 10 and/or second membrane 28. Slit 38 can provide another opening to the interior cavity of first membrane 20. In preferred embodiments, slit 38 is resealable, as can be accomplished by proper placement of label or membrane member 36. With reference to this embodiment, label/member 36 can comprise a separate component coupled to second membrane 28 to seal the opening of slit 38. In such embodiments, second membrane 28 can have an adhesive relationship to label/member 36. FIG. 2, for illustrative purposes only, shows partial placement of label/member 36 over slit 38. The phantom lines therein represent the resulting opening to the interior cavity of first membrane 20, as afforded by slit 38. It should be understood, of course, that a more useful configuration of label/member 36 would include full coverage of the opening afforded by slit 38.

[0027] As described above, the package mid/or system of this invention provides a novel alternative to the pre-made bags of the prior art. The unique membrane construction and configuration enables a manufacturer to quickly and easily adapt a package to suit the needs of any individual customer: for instance and without limitation, a second membrane such as that described can be customized by way of brand name and product information and used in conjunction with either a generic or customized first membrane. In such a way, a multitude of film colors, patterns and print arrangements are possible upon quick notice and without having to maintain a large inventory of material and manufacturing supplies. Manufacturing lines can be easily modified upon short notice to meet the packaging needs of a particular product or customer. Economies are realized without resort to large scale production. Such packaging and the accompanying benefits are available from Rockline Industries, Inc. of Sheboygan, Wisconsin.

[0028] The present invention can be utilized in conjunction with one of several available mechanisms for resealably engaging the peripheral edges/portions of the component membranes. As would be well known to those skilled in the art of manufacturing such packages, such resealable mechanisms can be interchanged one for the other at the time of production. As described above, a tongue/groove or zip-loc™ mechanism is preferred; however, an adhesive reseal can be used with good effect. The membrane configuration and construction of the present invention enhances the benefits of an interchangeable mechanism and permits such changes to be made quickly and economically to meet customer or/and use requirements.

[0029] As can be inferred from the foregoing discussion, the exterior configuration and shape of the present package invention can be readily adapted to conform to the amount and arrangement of product contained therein. For example, a 160-count product can be provided by suitable arrangement of a plurality of stacks across the aforementioned interior cavity two 80-count stacks or four 40-count stacks can be prepared. It should be understood, however, that various other total counts can be utilized with the package of this invention, the number and arrangement thereof dependent only upon available membrane configuration and production capability. As such, a 240-count package can be provided by arrangement of three 80-count stacks across the interior cavity of a first membrane.

[0030] One benefit of the present invention is alignment of stacks as shown in FIG. 2. A package configured as described herein can then be positioned on a side corresponding to the downward or tail end of the contained stack(s). Such an alignment allows for use of a second membrane, such as described above, as a readily-adaptable surface for package and content information. A package and contained product positioned in this manner can be utilized to conserve the relative moisture content of each individual wipe or towel item therein. While gravity may cause eventual movement of moisturizing material down a product stack, no individual wipe or towelette will become dry. Rather, the relative moisture content of each wipe/towelette will remain substantially the same until use. Conservation of moisture is a primary benefit of the present invention over the prior art packaging, and is best exemplified by the absence of a moisture barrier between stacks.

[0031] The vertical alignment of stacks can be

enhanced by sealing the component membranes under reduced pressures. Such vacuum action also serves to conform the package to the stack configuration and more securely position each stack relative to the surrounding package. Such a vacuum-induced seal also serves to preserve moisture content and prolong shelf life.

[0032] As described above, a preferred embodiment of the present invention include a resealable opening in one of the component membranes. Such an opening, present with or without resealable engaging membrane peripheries, can serve to promote removal of one or several wipes or towelettes from the package interior. The opening can comprise a perforated slit, tab or other suitable configuration. Regardless, such an opening can be resealed through adaptation of covering member such as an adhesive label provided in conjunction with such a membrane.

[0033] While the principles of this invention have been described in connection with specific embodiments, it should be understood clearly that these descriptions are made only by way of example and are not intended to limit the scope of this invention, in any manner. Other advantages and features of this invention will become apparent from the following claims, with the scope throughout determined by the reasonable equivalents, as understood by those skilled in the art.

Claims

1. A disposable wipe package (10), said package comprising:

a plurality of premoistened disposable wipe stacks (12a), each said stack having a tail end (14) and a head end (16);
a first membrane (20) formed of a flexible moisture retentive material, said first membrane defining an open-ended, sided interior cavity (22) having substantially the size and shape of said baby wipe stacks (12a) and containing therein each wipe stack, the stacks being arranged across the interior cavity, the first membrane further including a peripheral edge (26) around the open end of said interior cavity; and
a second membrane (28) formed of a flexible moisture retentive material disposed over the open-end of the interior cavity, said second membrane including a peripheral portion (30) overlying the peripheral edge (26) of the first membrane (20), the peripheral portion being in sealed engagement with the peripheral edge of the first membrane.

2. The package of Claim 1 characterised in that the first and second membranes (20; 28) are form fitted around the stacks (12a).

3. The package of Claim 1 or Claim 2 characterised in that each disposable wipe stack (12a) has a rectangular configuration and the interior cavity (22) is five-sided.

4. The package of Claim 3 characterised in that the peripheral portion (30) of the second membrane (28) seals three peripheral edges (26) of the first membrane (20), the remaining peripheral portion and peripheral edge being in resealable engagement with one another, preferably by means of a tongue and groove relationship.

5. The package of Claim 4 characterised in that the head end (16) of each stack (12a) is aligned with the resealably engaged peripheral portion (30) and peripheral edge (26).

6. The package of Claim 5 characterised in that each tail end (14) of each stack (12a) and the corresponding first membrane side (24') are dimensioned to stably position the package on this corresponding side (24'), and the second membrane (28) is preferably provided with upright labeling (36) as the package (10) is positioned on the corresponding side (24').

7. The package of any preceding claim characterised in that the second membrane (28) further includes a resealable opening (38) to said interior cavity (22).

8. A method of using the package position of a disposable wipe stack (12a) to conserve the relative percentage of moisture content within each baby wipe (12b), said method comprising:

providing a first package membrane (20) formed of a flexible moisture-retentive material, said first membrane defining an open-ended five-sided interior cavity (22);
placing at least one disposable wipe stack (12a) within the interior cavity (22), each stack including a plurality of premoistened, disposable wipes (12b) and each stack having four sides (18), a tail end (14) and a head end (16);
providing a second package membrane (28) formed of a flexible moisture-retentive material disposed over the open-end of the interior cavity (22), the second membrane being in sealed engagement with the first membrane; and
positioning the package (10) on a side (24') of the first membrane (20) corresponding to the tail end (14) of each disposable wipe stack (12a).

9. The method of Claim 8 characterised by including a plurality of stacks arranged across the interior cav-

ity.

10. The method of Claim 8 or Claim 9 characterised in that the first package membrane (20) further includes a peripheral edge (26) around the open end of the interior cavity (22), and the second package membrane (28) includes a peripheral portion (30) in sealed engagement with the peripheral edge (26) of the first membrane (20).

11. The method of any one of Claims 8 to 10 characterised in that the first and second membranes (20; 28) are engaged under reduced atmospheric conditions.

12. The method of any one of Claims 8 to 11 characterised in that the package (10) is rectangular and the peripheral portion (30) of the second membrane (28) seals three peripheral edges (26) of the first membrane (20), and the remaining peripheral portion and peripheral edge resealably engage one another.

13. An upright baby wipe package (10), said package comprising:

a plurality of premoistened disposable baby wipe stacks (12a), each stack having four sides (18), a tail end (14) and a head end (16);
a first membrane (20) formed of a flexible moisture retentive material, the first membrane defining an open-ended five sided interior having substantially the size and shape of the baby wipe stacks and containing therein each baby wipe stack, said stacks being arranged across said interior cavity (22) with the tail end (14) of each stack positioned downward in the cavity and on the corresponding first membrane side (24'); and
a second membrane (28) formed of a flexible moisture retentive material disposed over the open-end of the interior cavity (22), said second membrane being in sealed engagement with said first membrane.

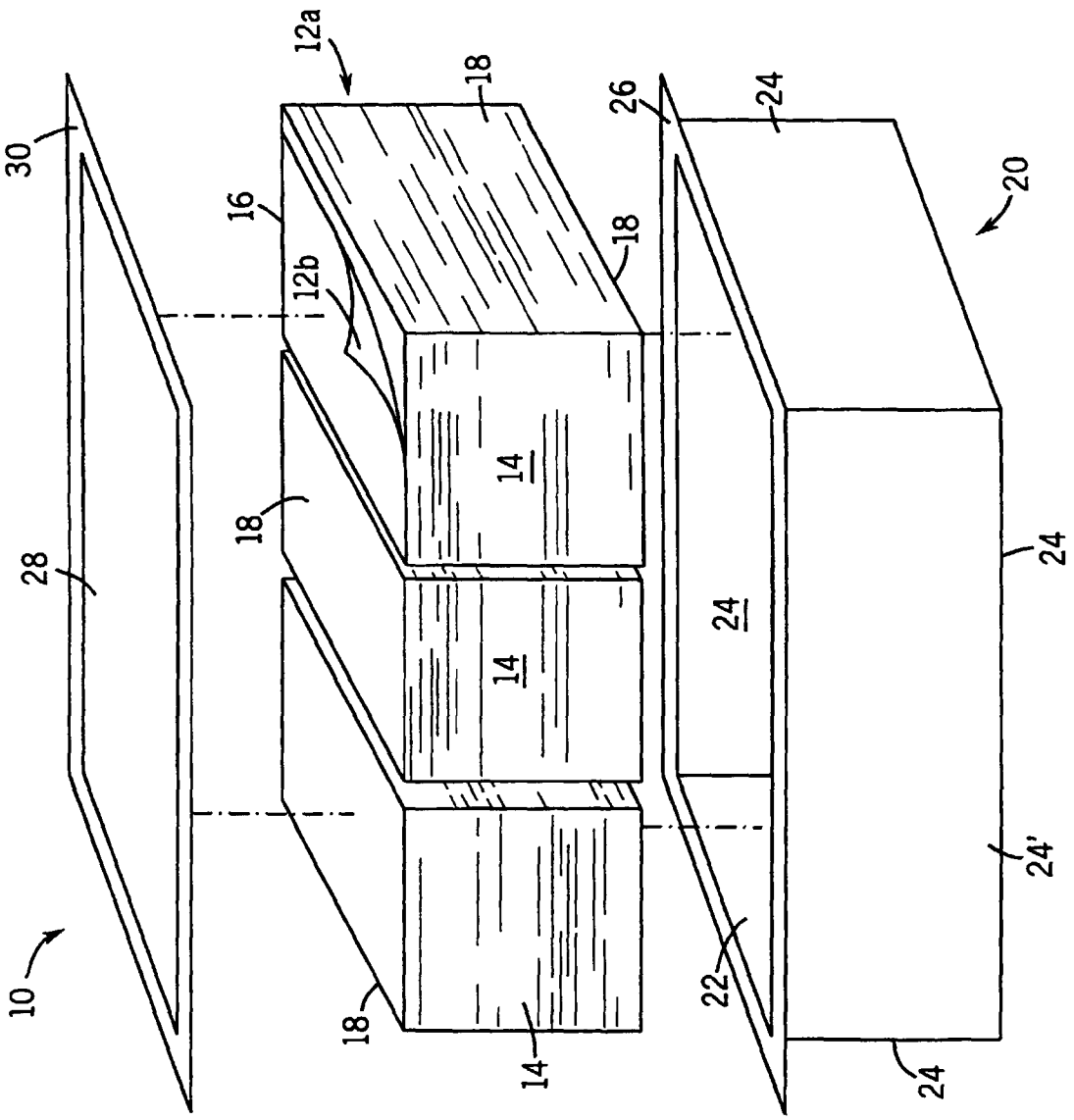
14. The package of Claim 13 characterised in that the first membrane (20) includes a peripheral edge (26) around the interior cavity (22) and the second membrane (28) includes a peripheral portion (30) overlying the peripheral edge of the first membrane.

15. The package of Claim 13 or Claim 14 characterised in that each baby wipe stack (12a) has a rectangular configuration, such that the head and tail ends (16; 14) of each stack have a width dimension less than the length dimension of the sides (18).

16. The package of any one of Claims 13 to 15 characterised in that the peripheral portion of the second membrane (28) seals three peripheral edges of the first membrane (20), said remaining peripheral portion and peripheral edge being in resealable engagement one with the other, preferably by means of a tongue and groove relationship.

17. The package of any one of Claims 13 to 16 characterised in that the second membrane (28) includes label information (36) readably arranged with the tail end (14) of each stack (12a) positioned downward within the interior cavity (22).

FIG. 1



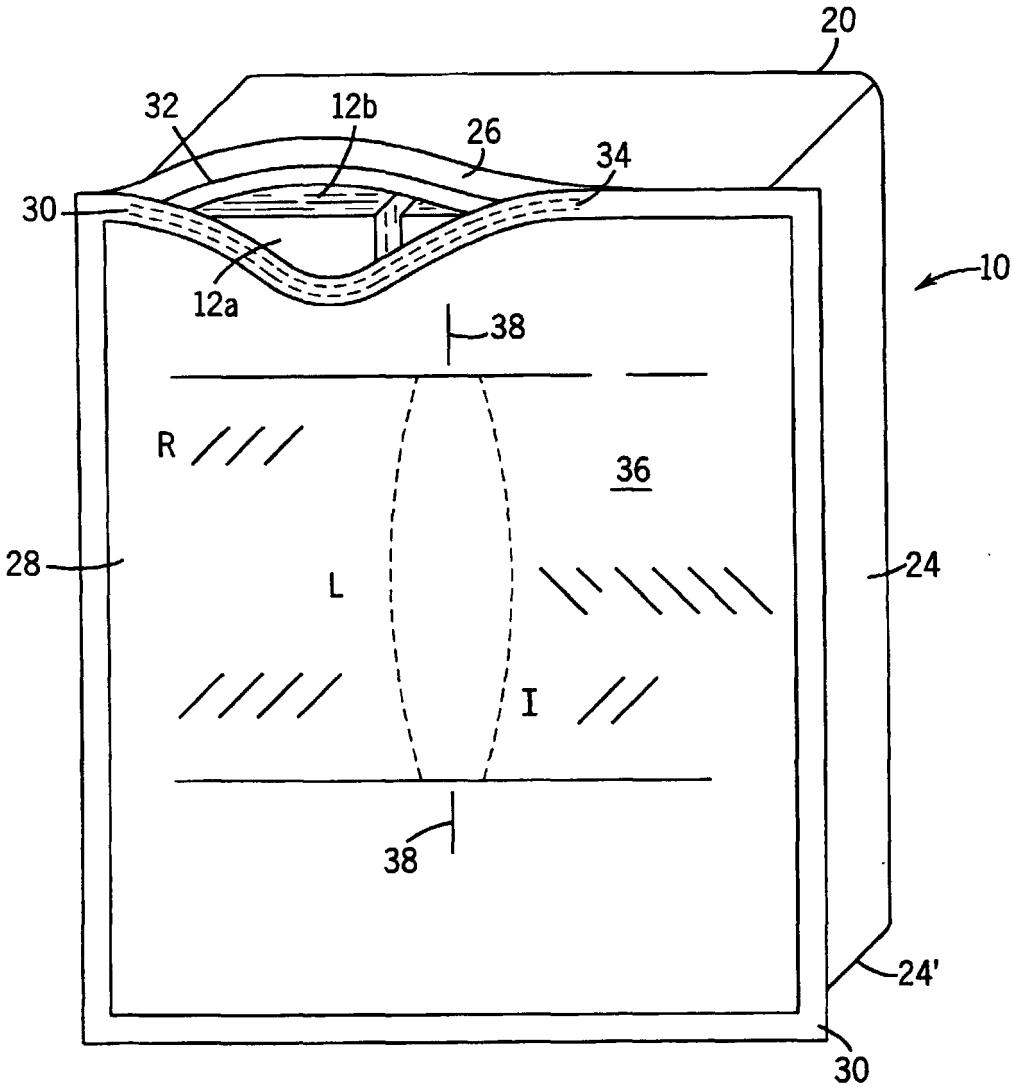


FIG. 2

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 30 3353

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TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B65D
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	2 August 2000	Fournier, J

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 00 30 3353

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