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(54) **RECONFIGURING AND VACUUM-PACKAGING DIAPER**

**Publication Classification**

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(57) **ABSTRACT**

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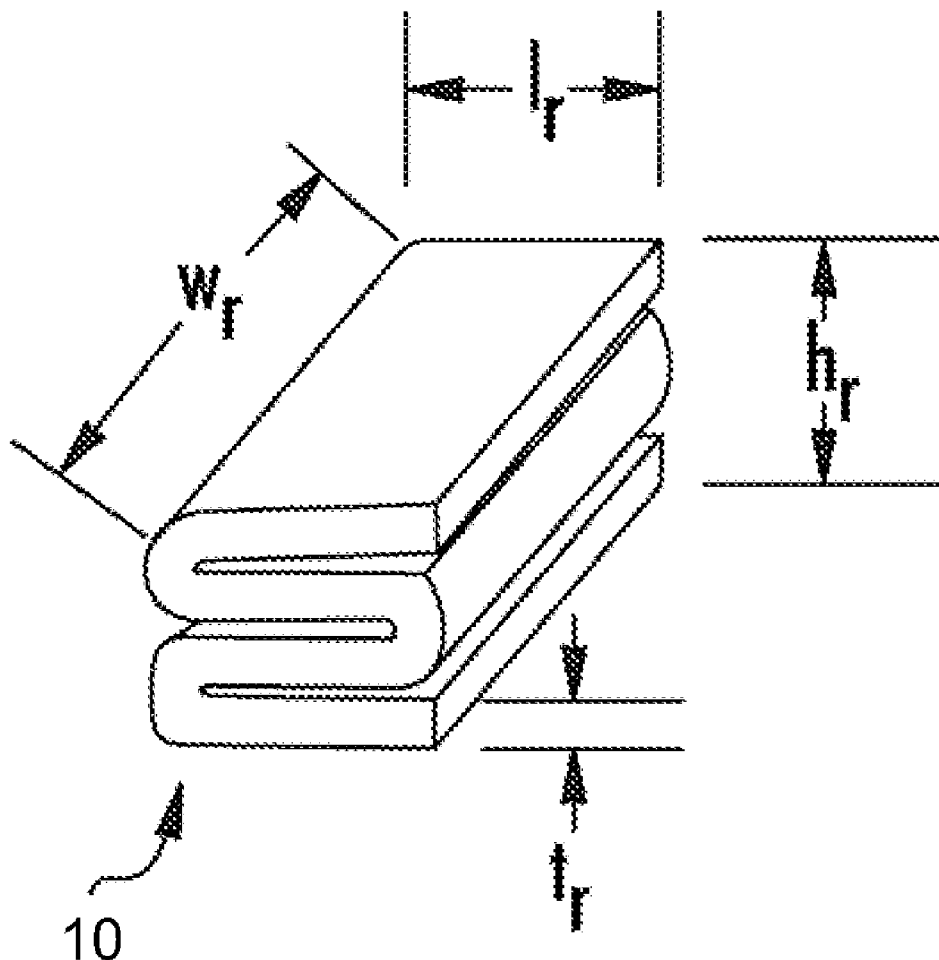
A method of individually packaging a diaper includes reconfiguring a diaper from a first configuration to a second configuration; and compressing the diaper to, and retaining the diaper in, a compressed condition by vacuum-packaging of the reconfigured diaper. Vacuum-packaging of the reconfigured diaper includes the steps of locating the diaper in an interior space of a substantially flexible material, creating a negative pressure within the interior space, and hermetically sealing the diaper at the negative pressure in the interior space of the flexible material. The packaged diaper may be the only diaper contained within the interior space of the flexible material. The diaper also may be packaged such that the packaged diaper is dimensioned to fit within a pocket of an article of clothing on one's person.

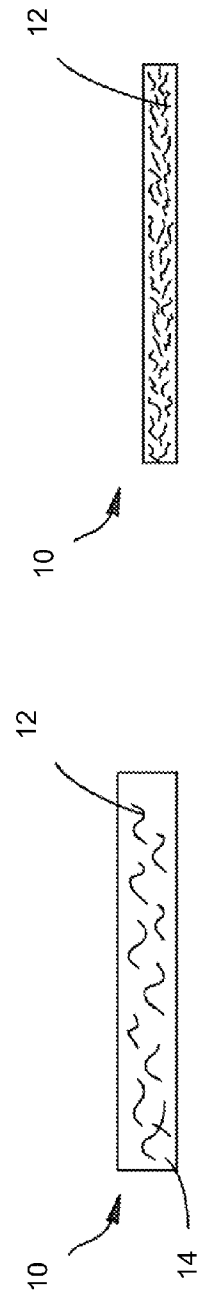
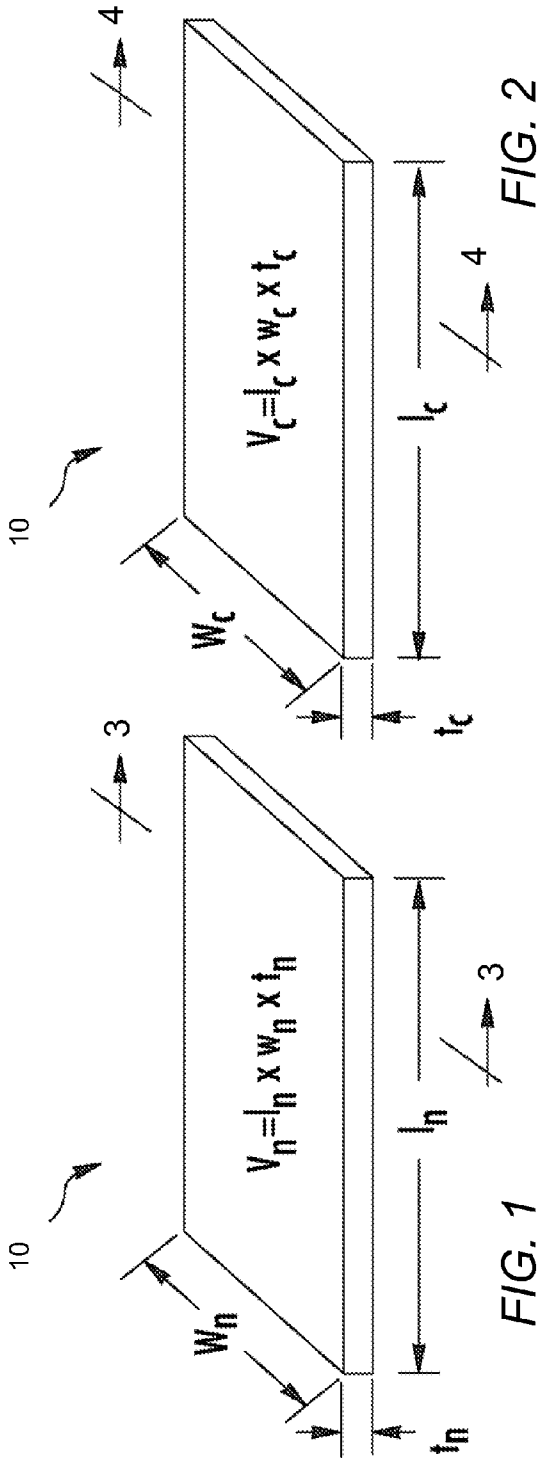
(21) Appl. No.: **11/421,761**

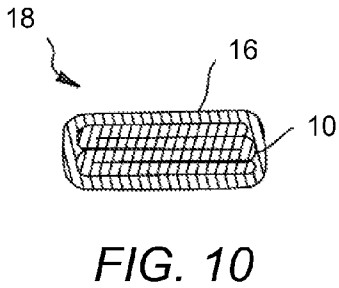
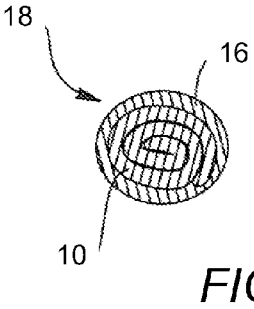
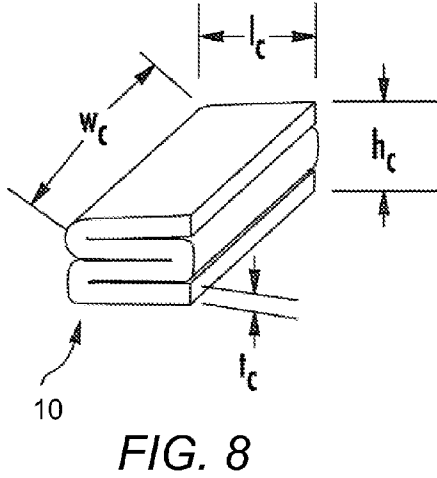
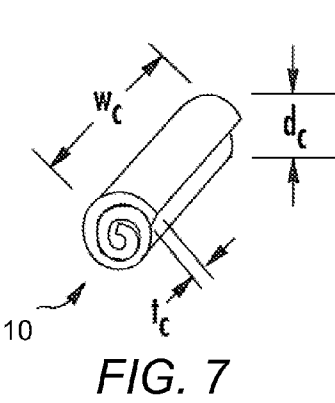
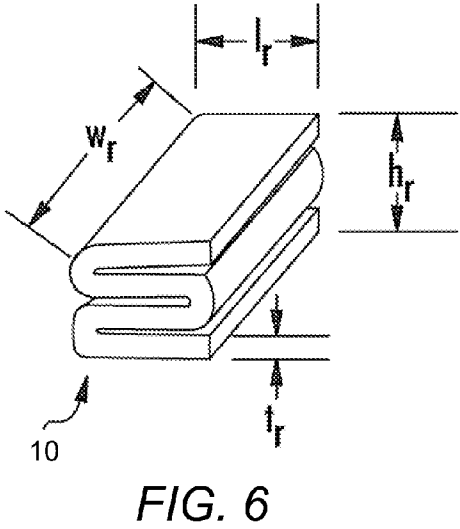
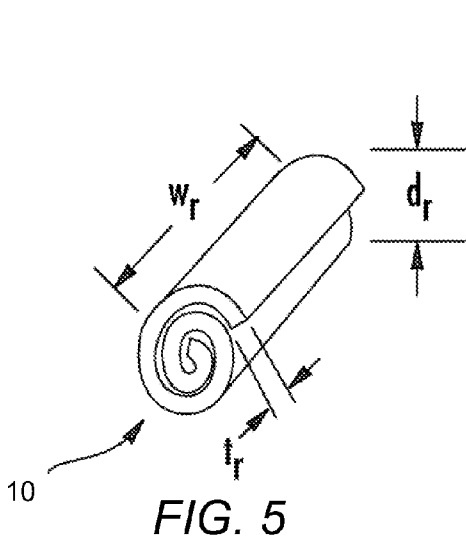
(22) Filed: **Jun. 1, 2006**

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 09/560,246, filed on Apr. 26, 2000.







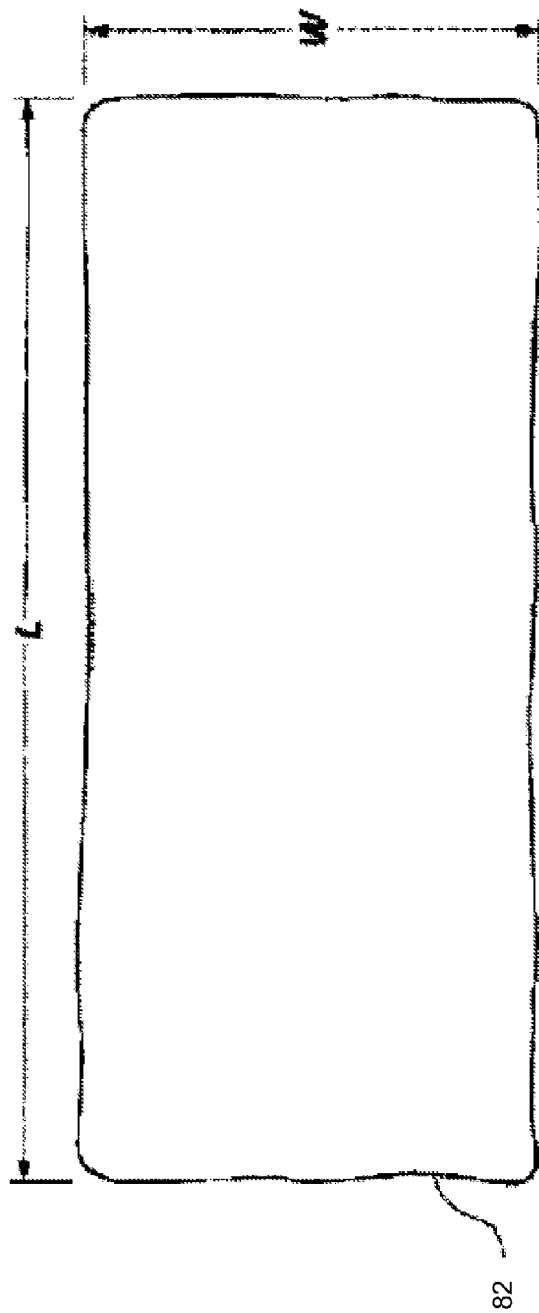


FIG. 11

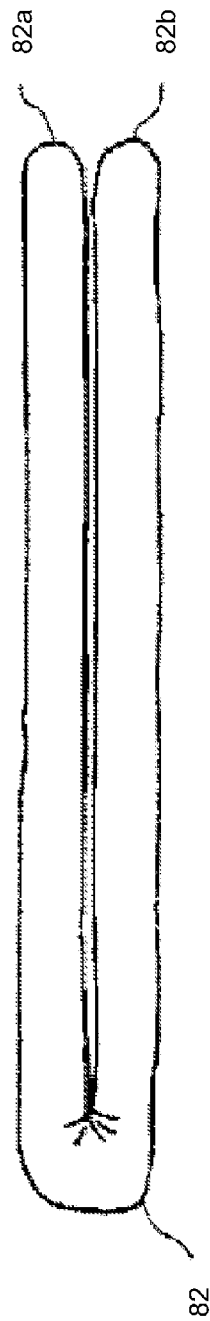


FIG. 12

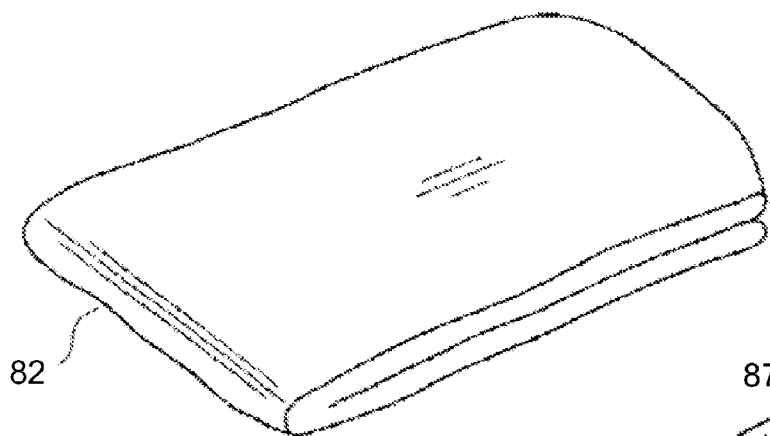


FIG. 13

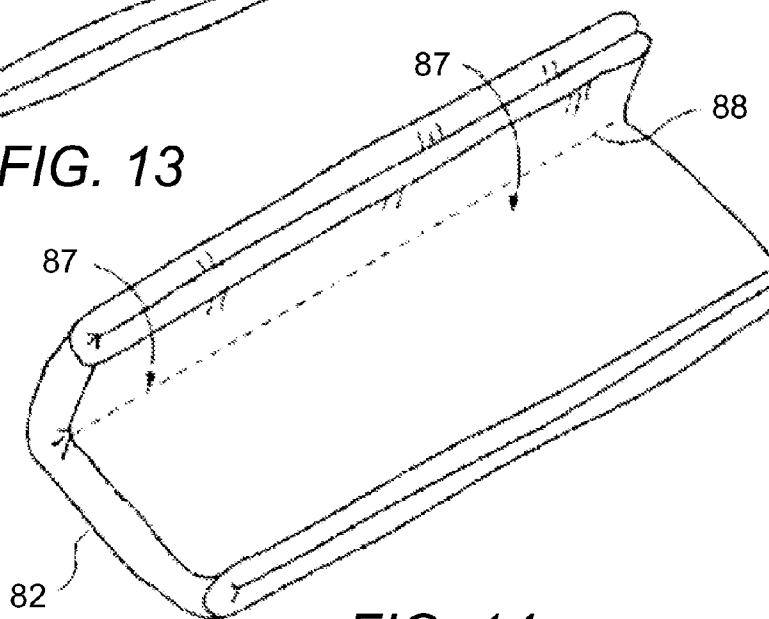


FIG. 14

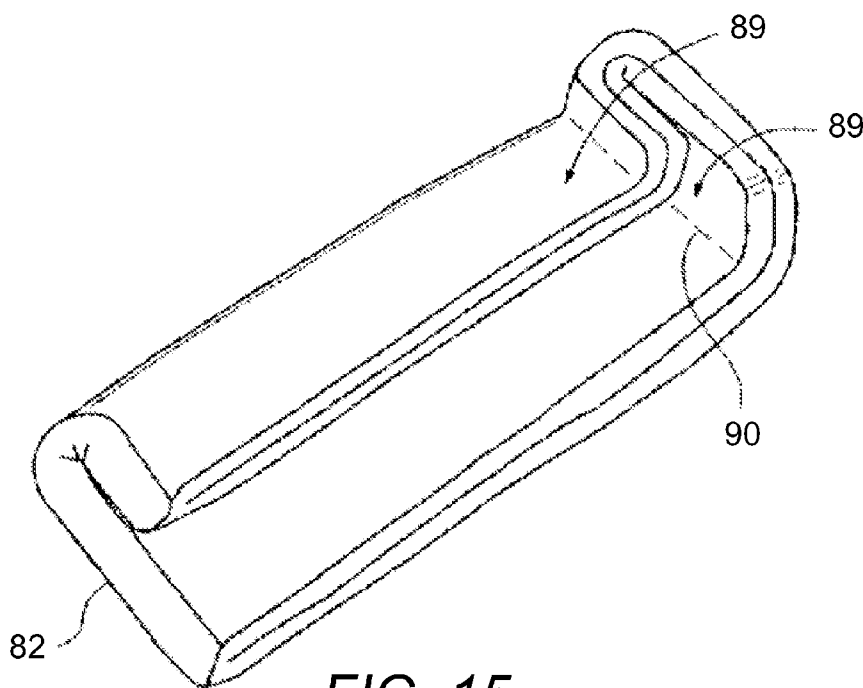


FIG. 15

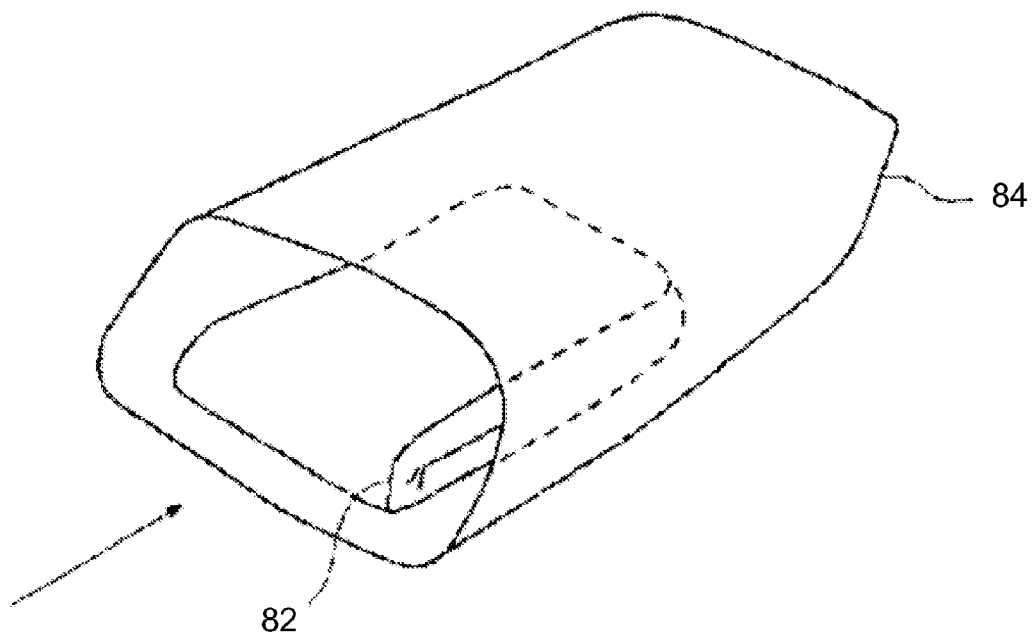


FIG. 16

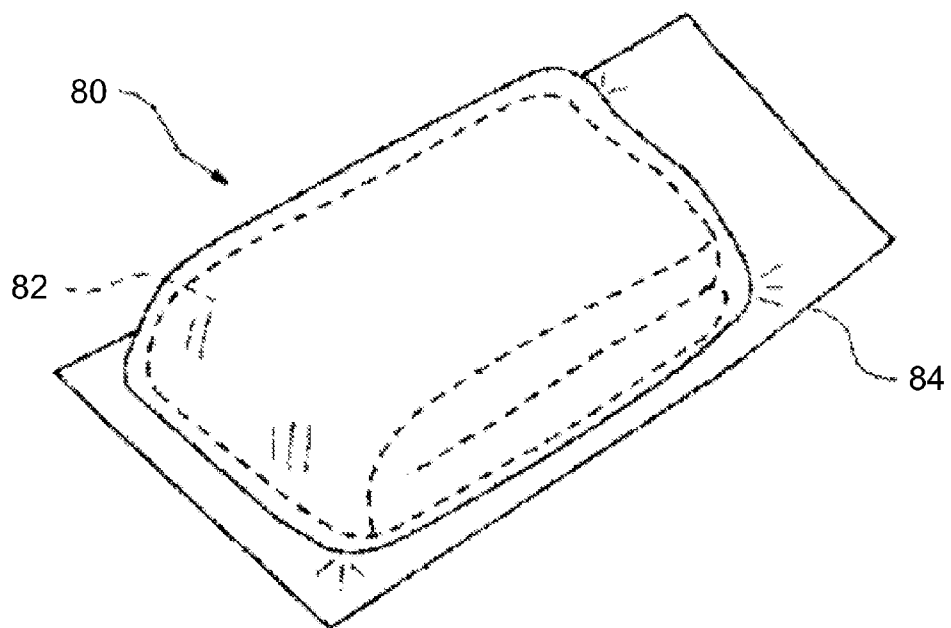


FIG. 17

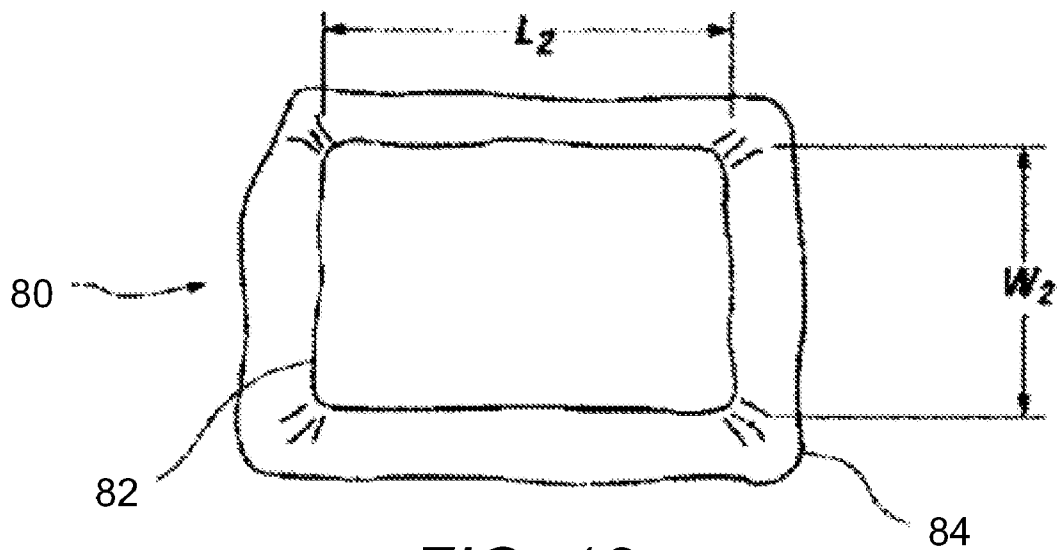


FIG. 18

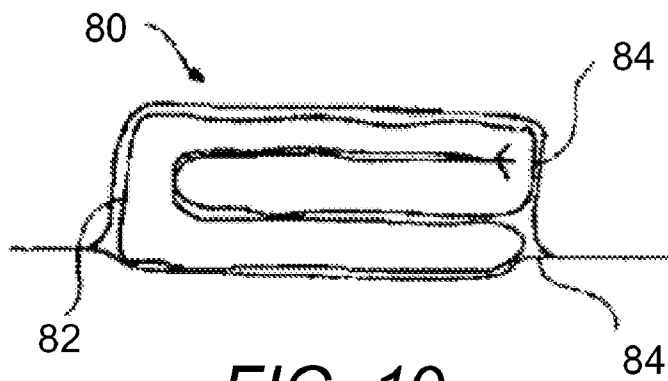


FIG. 19

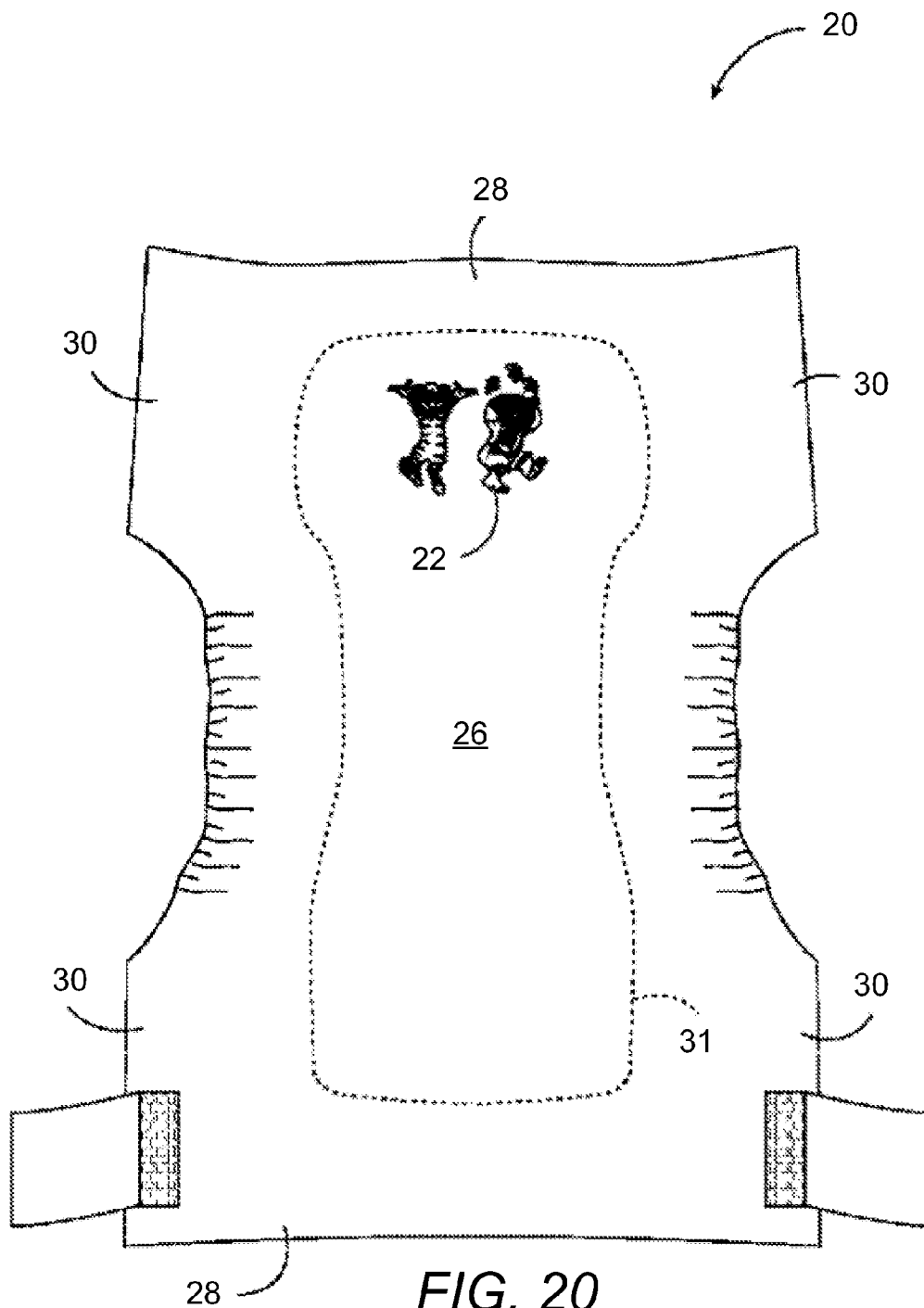


FIG. 20



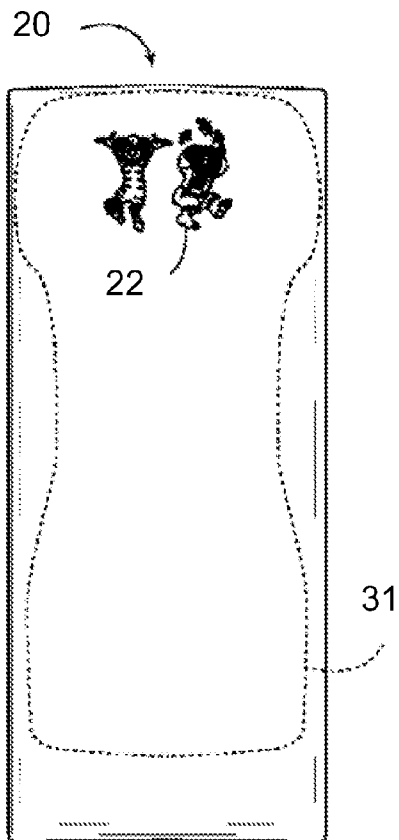


FIG. 21

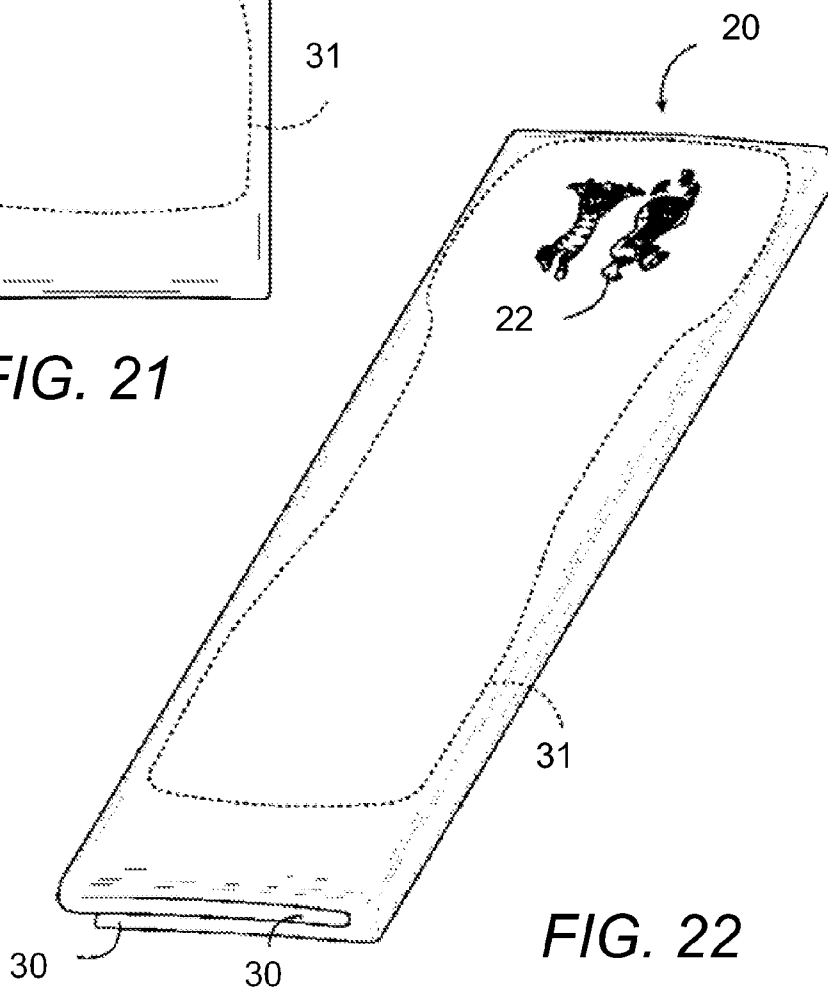


FIG. 22

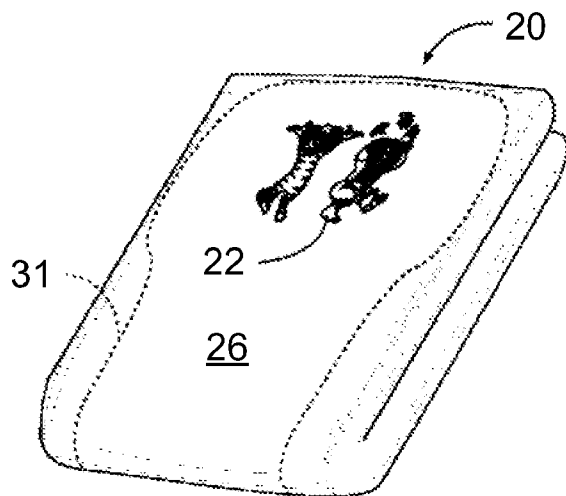


FIG. 23

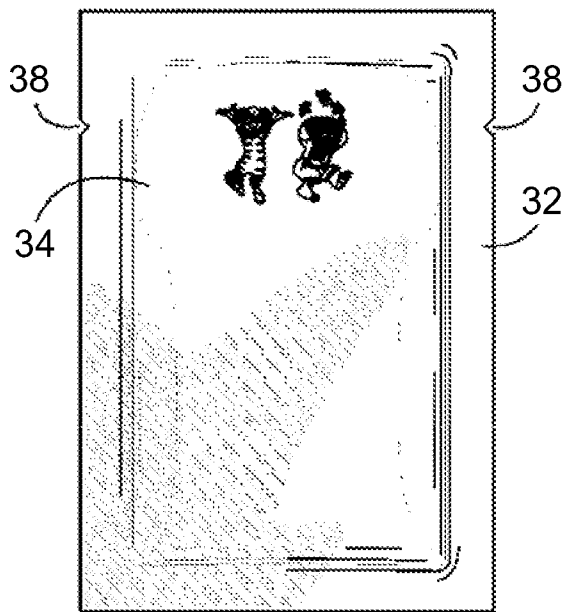


FIG. 24

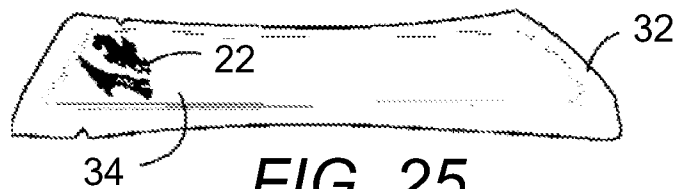
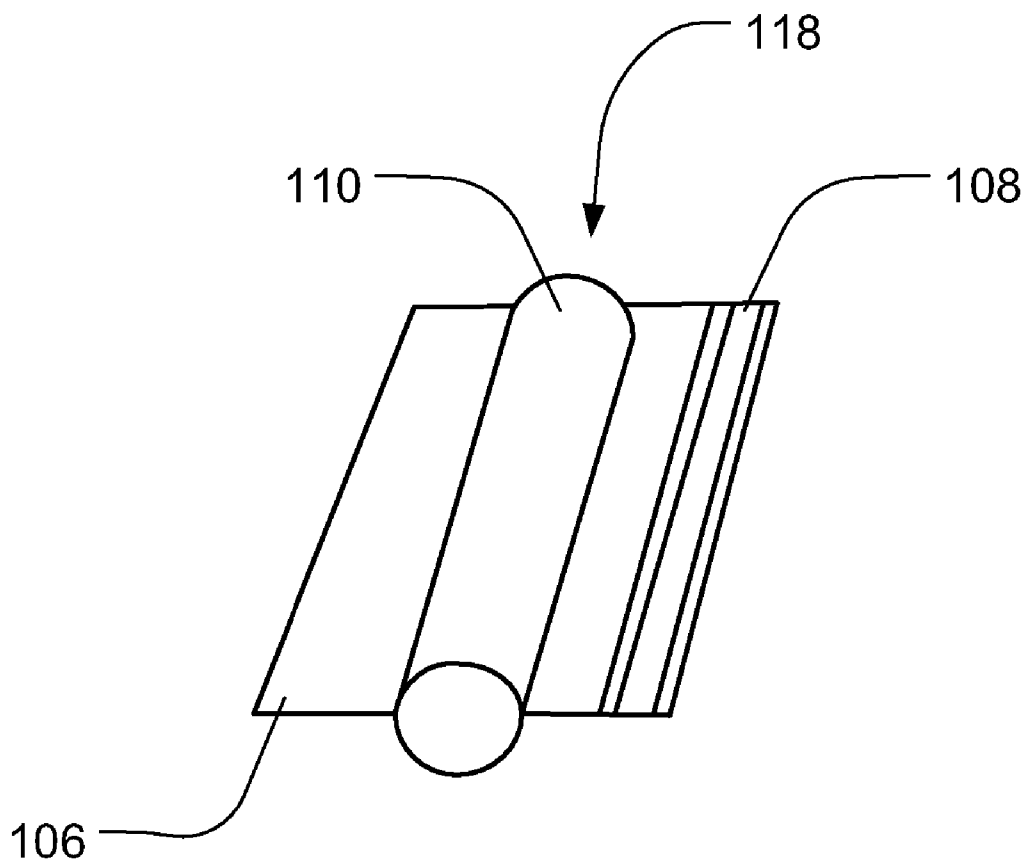


FIG. 25



**FIG. 26**

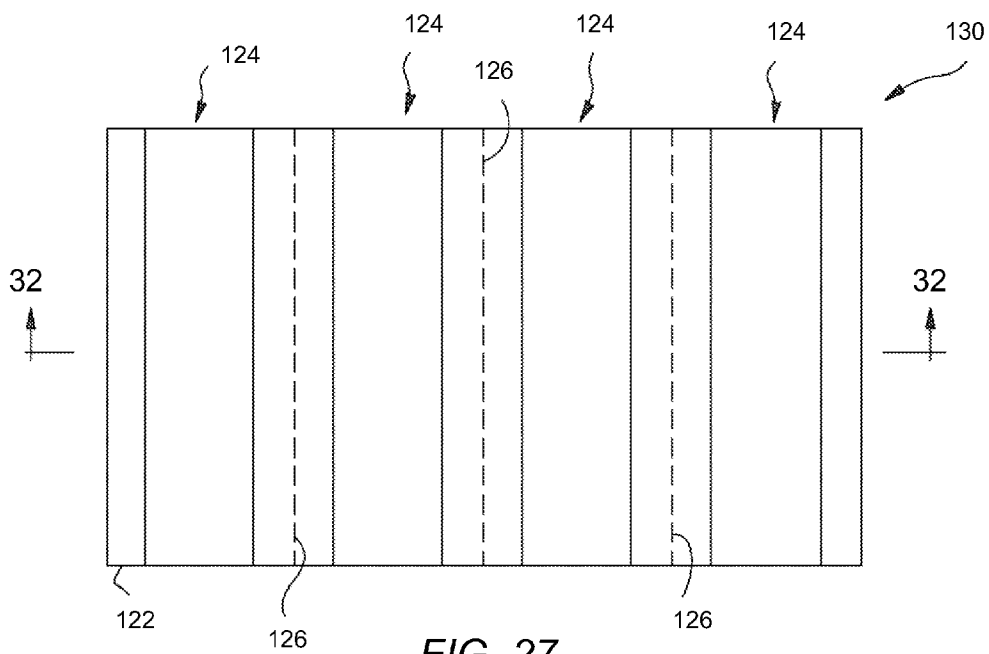


FIG. 27

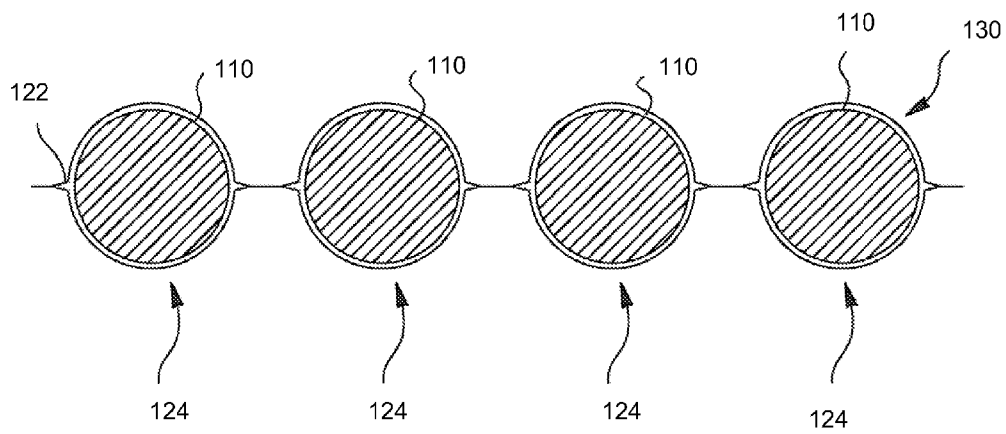


FIG. 28

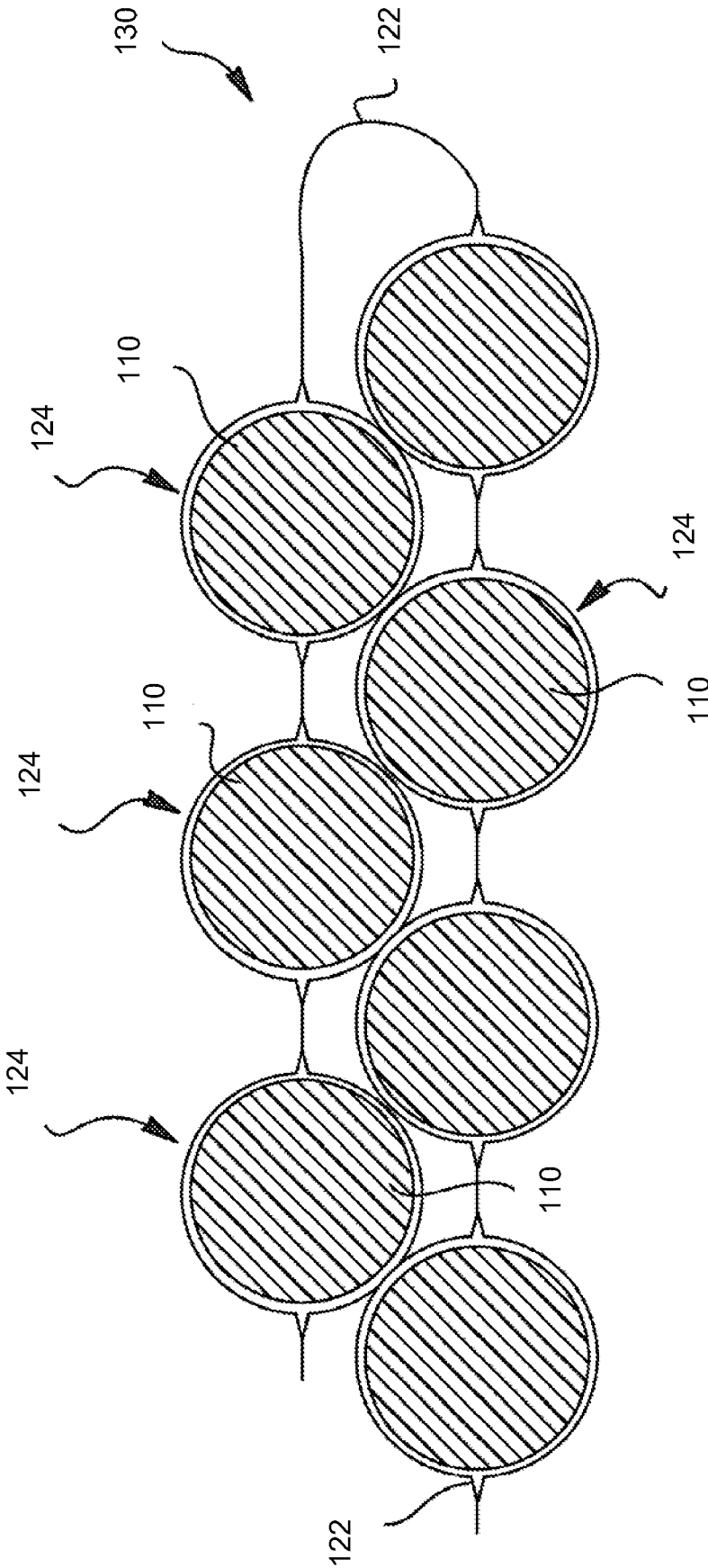


FIG. 29

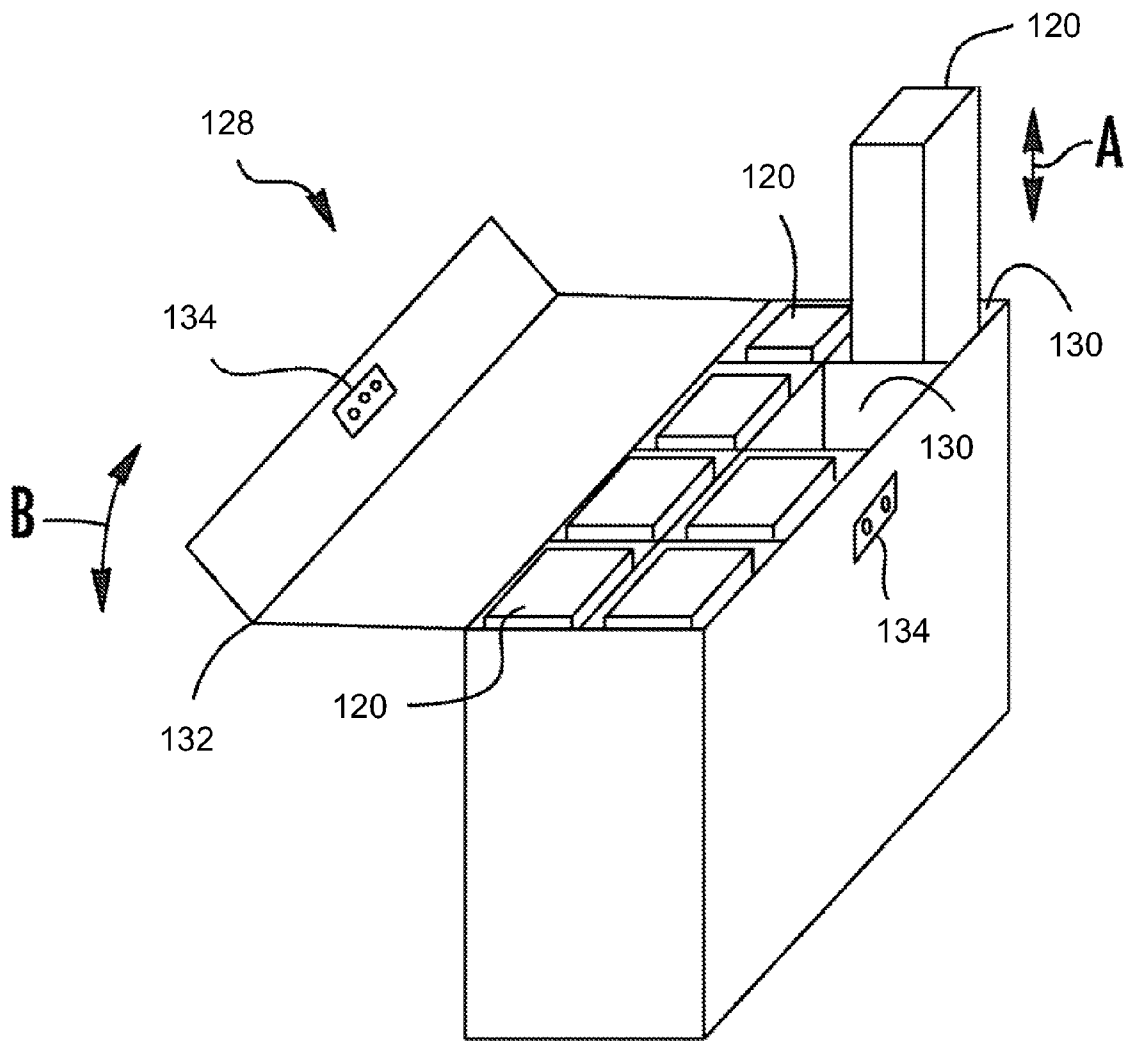
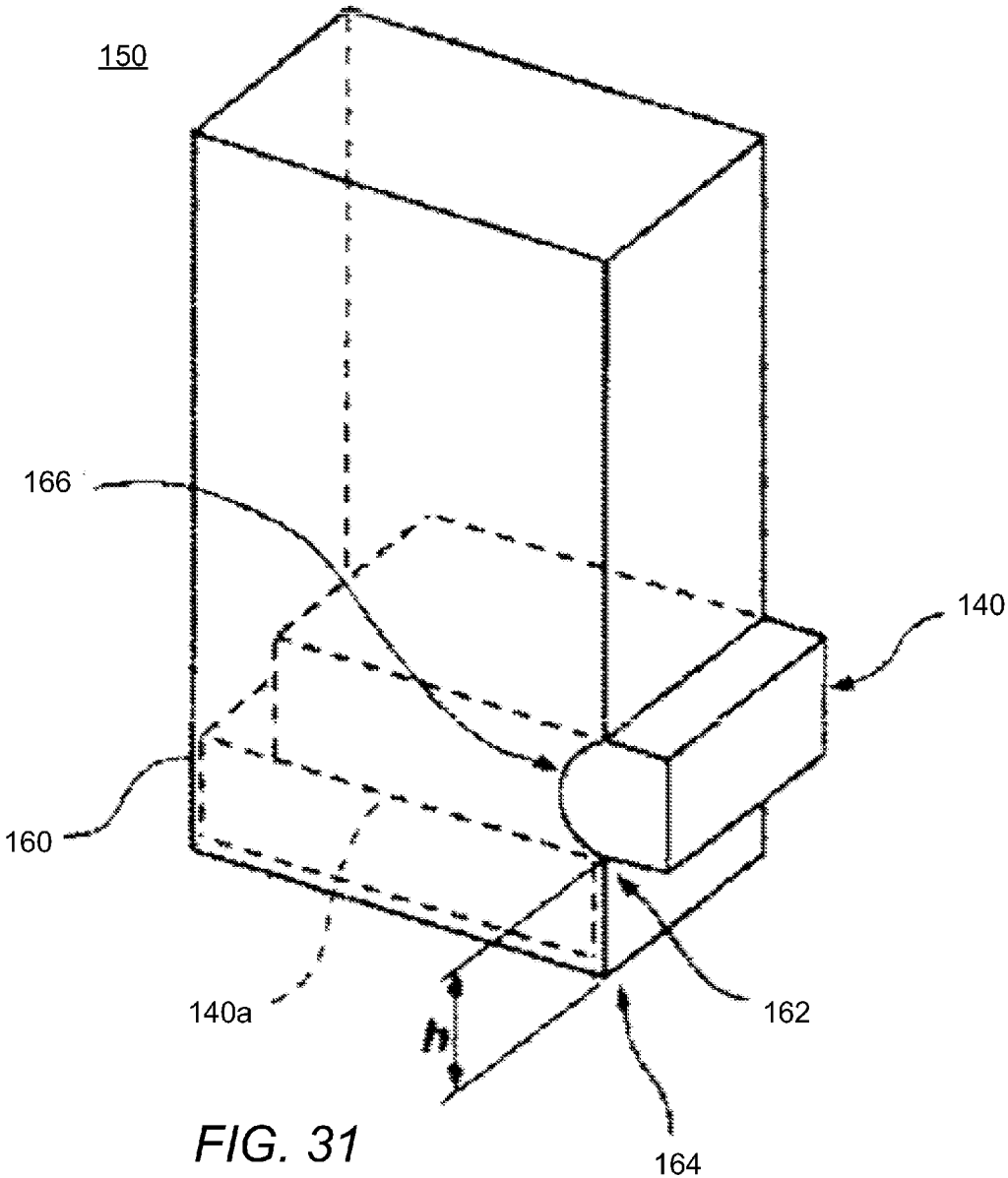


FIG. 30



**RECONFIGURING AND VACUUM-PACKAGING  
DIAPER**

**I. CROSS-REFERENCE TO RELATED  
APPLICATION**

[0001] This application is a continuation-in-part of, and claims priority under 35 U.S.C. §120 to, U.S. patent application Ser. No. 09/560,246, which was filed Apr. 26, 2000, pending, and which is incorporated herein by reference.

**II. COPYRIGHT STATEMENT**

[0002] All of the material in this patent document is subject to copyright protection under the copyright laws of the United States and of other countries. The copyright owner has no objection to the facsimile reproduction by anyone of the patent document or the patent disclosure, as it appears in the Patent and Trademark Office patent file or records, but otherwise reserves all copyright rights whatsoever.

**III. BACKGROUND OF THE PRESENT  
INVENTION**

[0003] The present invention relates to absorbent articles such as diapers and sanitary napkins. More particularly, the present invention relates to absorbent articles that are packaged at reduced volume to become ultra-compact and highly portable.

[0004] One of the drawbacks of disposable diapers is portability, particularly during travel, whether long-distance travel or simply to the neighborhood store. Parents need to pack a sufficient number of diapers in a diaper bag to last the duration of the trip. However, while not necessarily heavy, disposable diapers are bulky and occupy a large amount of space. Accordingly, a diaper bag in tow with a traveling parent is cumbersome and a nuisance. Indeed, a single disposable diaper may not fit into most purses or a jacket breast pocket even for short trips.

[0005] In view of the foregoing, there remains a need in the art for absorbent articles that are compact and portable.

**IV. SUMMARY OF THE PRESENT INVENTION**

[0006] According to one aspect of the invention, a set of compact absorbent articles includes a plurality of absorbent articles and a packaging. Each of the absorbent articles, such as a diaper or a sanitary napkin, is reconfigurable from a normal condition to a compressed condition. The packaging includes a plurality of compartments each for receiving one of the absorbent articles in the compressed condition. Each of the absorbent articles has three dimensions, at least one of which is reduced when the absorbent article is in the compressed condition, with each of the absorbent articles being retained by the packaging when in the compressed condition.

[0007] According to various aspects of the invention, the packaging may have release seams disposed between the compartments, so that a user can remove an individual article in its compartment from the other articles in the packaging. Also, each of the absorbent articles may be vacuum sealed at negative pressure in the packaging. In addition, the dimension that is reduced may be reduced by at least 30% when the absorbent articles are in the com-

pressed condition. Further, each of the absorbent articles may be reconfigured from the normal condition to the compressed condition by negative pressure, physical force, rolling, or folding.

[0008] Regarding advantages, the individually packaged compressed absorbent articles are highly compact and, accordingly, readily portable. In addition, a packaged absorbent article can be easily carried in a purse or a breast pocket of a blazer. In a multipack packaging embodiment, the multipack may be conveniently carried in, e.g., a bag, with individual absorbent articles removed from the multipack as needed.

[0009] Additional aspects, features, and advantages of the present invention will become apparent to those skilled in the art from a consideration of the following detailed description taken in conjunction with the accompanying drawings.

**V. BRIEF DESCRIPTION OF THE DRAWINGS**

[0010] FIG. 1 is a perspective schematic view of an absorbent article of the invention shown in a normal (i.e., uncompressed) condition;

[0011] FIG. 2 is a perspective schematic view of the absorbent article of FIG. 1 now shown in a compressed condition;

[0012] FIG. 3 is a cross-sectional view of the absorbent article taken along line 3-3 of FIG. 1;

[0013] FIG. 4 is a cross-sectional view of the absorbent article taken along line 4-4 of FIG. 2;

[0014] FIG. 5 is a perspective view of a reconfigured absorbent article, wherein the article has been rolled in accordance with a method of the invention and is illustrated in a rolled configuration;

[0015] FIG. 6 is a perspective view of a reconfigured absorbent article, wherein the article has been folded in accordance with a method of the invention and is illustrated in a folded configuration;

[0016] FIG. 7 is a perspective view of the rolled absorbent article of FIG. 5, wherein the article in the rolled configuration has been compressed in accordance with a method of the invention and is illustrated in a compressed condition;

[0017] FIG. 8 is a perspective view of the folded absorbent article of FIG. 6, wherein the article in the folded configuration has been compressed in accordance with a method of the invention and is illustrated in a compressed condition;

[0018] FIG. 9 is a cross-sectional view of the rolled and compressed absorbent article of FIG. 7, wherein the article is retained by packaging in the rolled and compressed condition;

[0019] FIG. 10 is a cross-section view of the folded and compressed absorbent article of FIG. 8, wherein the article is retained by packaging in the folded and compressed condition;

[0020] FIG. 11 is a top plan view of a disposable diaper in a "bifold" configuration, wherein the diaper has been folded once about a crosswise fold line along a midsection thereof,



- [0021] FIG. 12 is a side view of the diaper of FIG. 11;
- [0022] FIG. 13 is a perspective view of the diaper of FIG. 11;
- [0023] FIG. 14 is a perspective view of the diaper of FIG. 13 being folded along a lengthwise aspect thereof;
- [0024] FIG. 15 is a perspective view of the diaper of FIG. 13 being folded along a crosswise aspect thereof;
- [0025] FIG. 16 is a perspective view of the diaper of FIG. 13 being inserted into a flexible, air impermeable encasement for vacuum0-packing;
- [0026] FIG. 17 is a perspective view of the diaper of FIG. 16 after vacuum-packaging;
- [0027] FIG. 18 is a top plan view of a diaper after folding, compressing, and vacuum-packaging, wherein the diaper is in a “trifold” configuration;
- [0028] FIG. 19 is a side view of the packaged diaper of FIG. 18;
- [0029] FIG. 20 is a top plan view of a disposable diaper having indicia thereon, wherein the diaper is completely unfolded;
- [0030] FIG. 21 and FIG. 22 are views of the diaper of FIG. 20 wherein margins of the diaper have been tucked;
- [0031] FIG. 23 is a perspective view of the diaper of FIGS. 21 and 22, wherein the diaper has been folded once about a crosswise fold line along a midsection thereof;
- [0032] FIG. 24 and FIG. 25 are views of the diaper of FIG. 23 after vacuum-packaging;
- [0033] FIG. 26 is a perspective view of a compressed absorbent article individually packaged in resealable packaging;
- [0034] FIG. 27 is a schematic plan view of a plurality of individually compressed absorbent articles arranged together in a multipack;
- [0035] FIG. 28 is a cross-sectional view of the multipack of FIG. 27 taken along the line 32-32;
- [0036] FIG. 29 is a cross-sectional view of a multipack similar to the multipack of FIG. 27-28, wherein the multipack has been folded back upon itself making the multipack compact and portable;
- [0037] FIG. 30 is a perspective view of a carrier that is configured to hold and retain a plurality of individually packaged compressed absorbent articles; and
- [0038] FIG. 31 is a perspective view of a master container that is configured to hold and dispense a plurality of individually packaged compressed absorbent articles.

#### VI. DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0039] As a preliminary matter, it will readily be understood by one having ordinary skill in the relevant art (“Ordinary Artisan”) that the present invention has broad utility and application. Furthermore, any embodiment discussed and identified as being “preferred” is considered to be part of a best mode contemplated for carrying out the present invention. Other embodiments also may be dis-

cussed for additional illustrative purposes in providing a full and enabling disclosure of the present invention. Moreover, many embodiments, such as adaptations, variations, modifications, and equivalent arrangements, will be implicitly disclosed by the embodiments described herein and fall within the scope of the present invention.

[0040] Accordingly, while the present invention is described herein in detail in relation to one or more embodiments, it is to be understood that this disclosure is illustrative and exemplary of the present invention, and is made merely for the purposes of providing a full and enabling disclosure of the present invention. The detailed disclosure herein of one or more embodiments is not intended, nor is to be construed, to limit the scope of patent protection afforded the present invention, which scope is to be defined by the claims and the equivalents thereof. It is not intended that the scope of patent protection afforded the present invention be defined by reading into any claim a limitation found herein that does not explicitly appear in the claim itself.

[0041] Thus, for example, any sequence(s) and/or temporal order of steps of various processes or methods that are described herein are illustrative and not restrictive. Accordingly, it should be understood that, although steps of various processes or methods may be shown and described as being in a sequence or temporal order, the steps of any such processes or methods are not limited to being carried out in any particular sequence or order, absent an indication otherwise. Indeed, the steps in such processes or methods generally may be carried out in various different sequences and orders while still falling within the scope of the present invention. Accordingly, it is intended that the scope of patent protection afforded the present invention is to be defined by the appended claims rather than the description set forth herein.

[0042] Additionally, it is important to note that each term used herein refers to that which the Ordinary Artisan would understand such term to mean based on the contextual use of such term herein. To the extent that the meaning of a term used herein—as understood by the Ordinary Artisan based on the contextual use of such term—differs in any way from any particular dictionary definition of such term, it is intended that the meaning of the term as understood by the Ordinary Artisan should prevail.

[0043] Furthermore, it is important to note that, as used herein, “a” and “an” each generally denotes “at least one,” but does not exclude a plurality unless the contextual use dictates otherwise. Thus, reference to “a picnic basket having an apple” describes “a picnic basket having at least one apple” as well as “a picnic basket having apples.” In contrast, reference to “a picnic basket having a single apple” describes “a picnic basket having only one apple.”

[0044] When used herein to join a list of items, “or” denotes “at least one of the items,” but does not exclude a plurality of items of the list. Thus, reference to “a picnic basket having cheese or crackers” describes “a picnic basket having cheese without crackers”, “a picnic basket having crackers without cheese”, and “a picnic basket having both cheese and crackers.” Finally, when used herein to join a list of items, “and” denotes “all of the items of the list.” Thus, reference to “a picnic basket having cheese and crackers” describes “a picnic basket having cheese, wherein the picnic

basket further has crackers,” as well as describes “a picnic basket having crackers, wherein the picnic basket further has cheese.”

[0045] Referring now to the drawings, an absorbent article is shown in **FIG. 1** and generally indicated by reference numeral **10**. The absorbent article **10**, which may be a diaper or a sanitary napkin, is a three-dimensional object occupying a volume of space  $V_n$  schematically represented by the product of a length  $l_n$ , a width  $w_n$ , and a thickness  $t_n$ , i.e.,  $V = l_n$  times  $w_n$  times  $t_n$ . The absorbent article **10** is compressible in at least one dimension but preferably in all three dimensions so that the volume of space which the article **10** occupies is reduced or compressed.

[0046] For example, the absorbent article **10** is shown in **FIG. 2** with compressed length, width, and thickness dimensions  $l_c$ ,  $w_c$ , and  $t_c$ , each of which is respectively less than the uncompressed or “normal” length, width, and thickness dimensions  $l_n$ ,  $w_n$ , and  $t_n$  of **FIG. 1**. Accordingly, a compressed volume  $V_c$  of the absorbent article **10** is less than the normal volume  $V_n$  thereof. For example, in accordance with the present invention, the absorbent article **10** is compressible such that the compressed volume  $V_c$  is at least one third less and preferably at least one half less than the normal volume  $V_n$ ; that is, the compressed volume  $V_c$  of the absorbent article is at least 30% less and is preferably at least 50% less than the uncompressed volume  $V_n$ . In accordance with the principles of the present invention, the absorbent article **10** is retained in the compressed condition, for example, by vacuum packaging, thereby providing an ultra-compact and highly portable absorbent article. The absorbent article **10** retained in the compressed condition may then be easily and conveniently carried by a user until needed.

[0047] The absorbent article **10** is illustrated schematically in the drawings but may be configured as any type of absorbent article as known in the art, for example, a diaper, either infant or adult, a feminine sanitary napkin, and so on. The absorbent article **10** is made from resilient and compressible material that is able to retain fluid. Examples of diapers are disclosed in U.S. Statutory Invention Registration No. H1674 and U.S. Pat. Nos. 5,520,674; 5,522,810; 5,855,574; 5,876,393; and 5,980,500. Examples of feminine sanitary napkins are disclosed in U.S. Pat. Nos. 5,490,847; 5,653,702; 5,792,131; 5,797,894; and 6,015,934. The disclosure of each of these patents is incorporated herein by reference.

[0048] Being made from resilient absorptive material, exemplary article **10** is compressible in at least one dimension. However, to minimize the amount of compressed volume  $V_c$ , it is preferable for the absorbent article **10** to be compressible in three dimensions, as mentioned above. More specifically, as shown in **FIG. 3**, exemplary article **10** includes absorptive material **12** with inter-fiber spaces **14**. To reduce at least one of the three dimensions, the absorbent article **10** is compressed, thereby substantially eliminating the inter-fiber spaces **14** and rendering the absorptive material **12** more dense, which condition is shown in **FIG. 4**.

[0049] To compress, the absorbent article **10** may be subject to compressive force, thereby forcing air out of the inter-fiber spaces **14** and compressing the absorptive material **12**. Alternatively, the absorbent article **10** may be subject to vacuum, thereby drawing air out of the inter-fiber spaces

**14** and compressing the absorptive material **12**. Once compressed, the absorbent article **10** is retained to maintain the compact and highly portable configuration, for example, by shrink-wrap thermoplastic packaging at a vacuum or negative pressure, which will be discussed in more detail below. To use, the retaining packaging is disengaged or opened, allowing the absorbent article **10** to return to expand under the resiliency and elasticity of the absorptive material **12**, which is also discussed in more detail below.

[0050] As mentioned above, the absorbent article **10** is shown in a normal condition in **FIGS. 1 and 3** in which the article is unstressed, uncompressed, and ready for use. Prior to being placed in the compressed condition as shown in **FIGS. 2 and 4**, the absorbent article **10** may be reconfigured in any of a variety of ways, many of which will be readily apparent to the Ordinary Artisan. The absorbent article **10** may be reconfigured, for example, by rolling as schematically shown in **FIG. 5** or by folding as schematically shown in **FIG. 6**, the latter sometimes being referred to herein as the “M-folded configuration.” When reconfigured, the absorbent article **10** has at least three dimensions, for example, a width  $w_r$ , a thickness  $t_r$ , and a diameter  $d_r$  as shown in **FIG. 5**, or a length  $l_r$ , a width  $w_r$ , a thickness  $t_r$ , and a height  $h_r$ , as shown in **FIG. 6**.

[0051] After being placed in a reconfigured condition, the absorbent article **10** may then be compressed as discussed above, thereby placing the article in a compressed condition. If reconfigured by rolling as shown in **FIG. 5**, then when compressed the absorbent article **10** takes on the compressed condition shown in **FIG. 7** with compressed dimensions of a width  $w_c$ , a thickness  $t_c$ , and a diameter  $d_c$ . If reconfigured by folding as shown in **FIG. 6**, then when compressed the absorbent article **10** takes on the compressed condition shown in **FIG. 8** with compressed dimensions of a length  $l_c$ , a width  $w_c$ , a thickness  $t_c$ , and a height  $h_c$ . It will likewise be apparent that when reconfigured into a wide variety of other configurations, including several shown and described herein, and then when compressed, each such reconfigured absorbent article **10** will take on a compressed condition with corresponding compressed dimensions. In each case, and analogous to the description above in relation to **FIGS. 1 and 2**, at least one of the compressed dimensions, but preferably all of the compressed dimensions, of the absorbent article **10** are respectively less than the reconfigured dimensions thereof.

[0052] After being compressed, the absorbent article **10** may then be retained to maintain the compressed condition, for example, with packaging **16** as shown in **FIGS. 9 and 10**, thereby yielding an individually packaged article **18**. As mentioned above, the packaging **16** may be a thermoplastic material that allows the compressed absorbent article **10** to be hermetically sealed therein. Alternatively, the packaging **16** may be any other material suitable for retaining the absorbent article **10** in the compressed condition. The packaging **16** ensures that the absorbent article **10** is clean and sanitary when the packaged article **18** is opened for use.

[0053] Other examples of how an absorbent article may be reconfigured are illustrated by **FIGS. 11-15**. In this regard, **FIG. 11** is a top view of a diaper **82** that has been folded along a centered, crosswise aspect to obtain a folded rectangular configuration. **FIG. 12** is a side view of the diaper **82**, and **FIG. 13** is a perspective view of the diaper **82**. It will

be appreciated that, in folding the diaper **82** to arrive at the configuration shown in **FIGS. 11-13**, a fold line necessarily extends through the absorbent core of the diaper **82**. The fold line effectively creates an upper portion **82a** and a lower portion **82b**, which may correspond to a front and a back of the diaper **82**. This configuration is sometimes referred to as the “bifold” configuration. The diaper **82** may be further reconfigured by folding the diaper in the bifold configuration along one or more lengthwise aspect, as shown in **FIG. 14**, along one or more crosswise aspect, as shown in **FIG. 15**, or along both. Specifically, folding the diaper **82** along fold line **88**, as represented by arrows **87**, results in a diaper that is reconfigured along a lengthwise aspect thereof, and folding **89** the diaper **82** along fold line **90**, as represented by arrows **89**, results in a diaper that is reconfigured along a crosswise aspect thereof. Furthermore, any desired number of lengthwise and/or crosswise folds may be applied to a diaper, as desired, and a diaper may be so folded from any other configuration and is not limited to the bifold configuration shown.

[0054] After the diaper **82** is reconfigured, it may be compressed and maintained in the compressed configuration by vacuum-packaging. For example, **FIG. 16** illustrates the insertion of the reconfigured diaper **82** within an encasement **84** and **FIG. 17** shows the resulting packaged diaper **80** after vacuum-packaging.

[0055] Another example of a diaper **82** that has been reconfigured and then vacuum-packaged within an encasement **84** is shown in **FIGS. 18-19**. A top view of the vacuum-packaged diaper **80** is shown in **FIG. 18**, and a side view of the vacuum-packaged diaper **80** is shown in **FIG. 19**. The vacuum-packaged diaper **80** includes a length  $L_2$  that is less than the length  $L$  of the diaper in the bifold configuration shown in **FIG. 11**, and a width  $W_2$  that is less than the width  $W$  of the diaper in the bifold configuration shown in **FIG. 11**. The diaper of **FIGS. 18-19** has been folded twice and thus includes two fold lines that extend along a crosswise aspect of the diaper. This configuration of the diaper is sometimes referred to as a “trifold” configuration.

[0056] Yet another example of reconfiguring a diaper and then packaging the diaper is illustrated by **FIGS. 20-25**. In this respect, **FIG. 20** illustrates a diaper **20** without any folds. The fully extended diaper **20** shown in **FIG. 20** includes indicia **22** printed on a front portion of an outer surface **26** of the diaper **20**. When printed on this portion, the indicia **22** is situated proximal the groin area and navel of the wearer when the diaper **20** of **FIG. 20** is worn.

[0057] **FIGS. 21 and 22** illustrate the diaper **20** of **FIG. 20** after margins of the diaper have been tucked. The “margins” of a diaper generally includes the end margins **28** and side margins **30** and include such items as elastics, tabs, and the like. Tucking of the margins results in the unfolded, rectangular configuration of the diaper shown in **FIGS. 21 and 22**. It will be noted that no fold line extends through the area of absorbent material of the diaper **20**, which area also may be referred to as the “absorbent core,” and which area of the diaper is indicated by dashed line **31**.

[0058] From the rectangular configuration of the diaper **20** shown in **FIGS. 21 and 22**, the diaper **20** is folded along a centered, crosswise aspect to obtain a folded rectangular configuration, such as shown in **FIG. 23**. Furthermore, it

will be appreciated that, in folding the diaper **20** to arrive at the configuration shown in **FIG. 23**, a fold line necessarily extends through the absorbent core **31** of the diaper **20**.

[0059] The diaper **20** may then be vacuum-packaged within an air and moisture impermeable encasement **32**. The resulting vacuum-packaged diaper is illustrated in **FIGS. 24 and 25**. At least a portion of the encasement **32** is transparent such that the indicia **22** printed on the surface **26** of the diaper is viewable through the encasement **32**. Additionally, notches **38** are formed along outer edges of the encasement **32** to aid in opening the encasement **32**.

[0060] As shown in **FIG. 26**, individually packaged compressed absorbent articles **118** may include sealable packaging **106**. More specifically, exemplary packaging **106** may include a resealable closure mechanism **108**. Accordingly, a user may open the packaging **106** and remove the absorbent article **110**, thereby allowing the compressed absorbent article to regain the normal condition for use. The now-empty packaging **106** then may receive and store a soiled absorbent article to be discarded in the future.

[0061] In addition to individually compressed and packaged absorbent articles such as articles **18,80,118**, a plurality of compressed absorbent articles may be packaged together in various multipack arrangements. One multipack of individually compressed and packaged absorbent articles **110** is shown in **FIGS. 27 and 28**, wherein the multipack is indicated by reference numeral **130**. The multipack **130** of articles includes packaging **122** for retaining a plurality of absorbent articles **110** in the compressed condition. The absorbent articles **110** are configured within the packaging **122** such that each article **110** is individually sealed, which is particularly shown in **FIG. 28** and indicated by reference numeral **124**. The packaging **122** includes perforations **126** between the individually sealed articles **124** so that a user may remove articles **124** as needed. In addition, the packaging **122** may be substantially flexible so that the multipack **130** may be folded back onto itself to be more compact and portable as shown in **FIG. 29**.

[0062] Another example of a multipack of individually compressed and packaged absorbent articles is shown in **FIG. 30**, wherein each of a plurality of containers **120** are arranged in a carrier **128** for convenient transport. Exemplary carrier **128** includes a plurality of compartments **130** each configured to receive a container **120** as shown by arrow A. The carrier **128** may also include a hinged cover **132** which pivots as shown by arrow B. The carrier **128** may also include releasable fastening means **134**, such as complementary hook-and-eye fasteners **134**, for retaining the cover **132** in a closed condition on the carrier. Each container **120** may be rectangular in shape, as shown, and includes therein an individually compressed and packaged absorbent article in accordance with the invention.

[0063] Another example of a multipack **150** of individually compressed and packaged absorbent articles is shown in **FIG. 31**, wherein each of a plurality of containers are arranged in a vertically stacked configuration within a master container **160**. Each container may be rectangular in shape, as shown, and includes therein an individually compressed and packaged absorbent article. The master container **160** includes a removable access panel (previously removed and not shown) through which one **140** of the plurality of containers is accessed. The removable access

panel may be perforated to facilitate its removal from the master container 160. A bottom 162 of the access panel can be disposed in the master container 160 in a location vertically displaced from a bottom 164 of the master container 160 by a distance substantially equal to a height “h” of a container 140. In this manner, as a container 140 is removed from the master container 160, the container (not shown) immediately above the removed container 140 will fall into place and will then be easily removable from the master container 160. Notches 166 are provided adjacent the removable panel to enable easy withdrawal of container 140 through the opening. The master container 160 can be used to package and ship a number of containers 140 and, advantageously, can be used to dispense containers 140 at, for example, a retail center or other location. The master container 160 shown in FIG. 31 may be configured to store and dispense any desired number of containers 140, and may be configured to include two or more access panels disposed and oriented in a variety of locations on the master container 160, as desired.

What is claimed is:

1. A method of individually packaging a diaper, comprising:
  - (a) reconfiguring a diaper from a first configuration to a second configuration; and
  - (b) compressing the diaper to, and retaining the diaper in, a compressed condition by vacuum-packaging of the reconfigured diaper.
2. The method of claim 1, wherein said vacuum-packaging of the reconfigured diaper comprises the steps of,
  - (i) locating the diaper in an interior space of a substantially flexible material,
  - (ii) creating a negative pressure within the interior space, and
  - (iii) hermetically sealing the diaper at the negative pressure in the interior space of the flexible material.
3. The method of claim 2, wherein said packaged diaper is the only diaper contained within the interior space of the flexible material.
4. The method of claim 1, wherein the diaper is packaged such that the packaged diaper is dimensioned to fit within a pocket of an article of clothing on one’s person.

5. The method of claim 1, wherein the flexible packaging material comprises a thermoplastic shrink-wrap material.

6. The method of claim 1, wherein said step (b) is performed after said step (a).

7. The method of claim 1, wherein said step of reconfiguring the diaper includes folding the diaper.

8. The method of claim 7, wherein said folding includes forming three crosswise folds in the diaper.

9. The method of claim 8, wherein said three crosswise folds are about evenly spaced along a length of the diaper between opposed ends of the diaper.

10. The method of claim 1, wherein said step of reconfiguring the diaper includes rolling the diaper such that the reconfigured diaper is cylindrical in shape.

11. The method of claim 1, wherein said step of compressing the diaper includes reducing at least two of height, width, and length dimensions of the diaper.

12. The method of claim 11, wherein at least two of the height, width, and length dimensions of the diaper are reduced without folding or rolling of the diaper during said step of compressing the diaper.

13. The method of claim 12, wherein at least one of the reduced dimensions is reduced by at least 30%.

14. The method of claim 1, wherein said step of compressing the diaper includes reducing at least two of width, thickness, and diameter dimensions of the diaper.

15. The method of claim 14, wherein two dimensions of the group of the width, thickness, and diameter of the diaper are reduced without folding or rolling of the diaper during said step of compressing the diaper.

16. The method of claim 15, wherein one of the reduced dimensions is reduced by at least 30%.

17. The method of claim 1, wherein said step of compressing the diaper includes compressing the diaper such that a volume of the diaper is reduced by at least 30%.

18. The method of claim 1, wherein said step of compressing the diaper includes compressing the diaper such that a volume of the diaper is reduced by 50%.

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