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REINFORCED PACKAGE

BACKGROUND OF THE DISCLOSURE

[0001] The present disclosure generally relates to packages for holding products. More specifically, the present disclosure is directed to packages having a reinforcing sleeve for supporting a bag in an erect position.

SUMMARY OF THE DISCLOSURE

[0002] In one aspect, the present disclosure is generally directed to a reinforced package. The package comprises a bag and a reinforcing sleeve attached to the bag. The bag comprises an open end, a closed end, and an interior space for holding a product. The bag is positionable in a non-erect position wherein the interior space is reduced and in an erect position wherein the interior space is increased. The reinforcing sleeve comprises a plurality of panels configured to at least partially receive the closed end of the bag. The plurality of panels comprise a front panel, a first side panel foldably connected to the front panel, a second side panel foldably connected to the front panel, and at least one back panel foldably connected to one of the first and second side panels. The reinforcing sleeve is configured to maintain the bag in the erect position.

[0003] In another aspect, the disclosure is generally directed to a reinforcing sleeve for a bag. The reinforcing sleeve comprises a plurality of panels configured to at least partially receive the bag. The plurality of panels comprise a front panel, a first side panel foldably connected to the front panel, a second side panel foldably connected to the front panel, and at least one back panel foldably connected to one of the first and second side panels. The reinforcing sleeve is configured to maintain the bag in an erect position against a surface.

[0004] Additional aspects, features, and advantages of the present invention will become apparent from the following description and accompanying figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] Those skilled in the art will appreciate the above stated advantages and other advantages and benefits of various additional embodiments reading the following detailed description of the embodiments with reference to the below-listed drawing figures. It is within the scope of the present disclosure that the above-discussed aspects be provided both individually and in various combinations.

[0006] According to common practice, the various features of the drawings discussed below are not necessarily drawn to scale. Dimensions of various features and elements in the drawings may be expanded or reduced to more clearly illustrate the embodiments of the disclosure.

- [0007] Fig. 1 illustrates a reinforced package in a first position, according to a first embodiment of the disclosure.
- [0008] Fig. 2 is a plan view of an interior surface of blank for forming a reinforcing sleeve of the reinforced package of Fig. 1.
- [0009] Fig. 3 is a bottom perspective view of the package of Fig. 1 in a second position.
- [0010] Fig. 4 is a perspective view of the reinforced package of Fig. 3.
- [0011] Fig. 5 illustrates a reinforced package in a first position, according to a second embodiment of the disclosure.
- [0012] Fig. 6 is a plan view of an interior surface of a blank for forming reinforcing sleeve of the reinforced package of Fig. 5.
- [0013] Fig. 7 is a perspective view of the package of Fig. 5 in a second position.
- [0014] Fig. 8 is a perspective view of a reinforced package, according to a third embodiment of the disclosure.
- [0015] Fig. 9 is a plan view of an exterior surface of blank for forming a reinforcing sleeve, according to a fourth embodiment of the disclosure.
- [0016] Corresponding parts are designated by corresponding reference numbers throughout the drawings.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

- [0017] The present disclosure generally relates to reinforced packages for holding products such as food products or other articles. Packages according to the present disclosure can accommodate articles of any shape.
- [0018] Fig. 1 illustrates a reinforced package generally indicated at 1, according to a first embodiment of the disclosure. The package includes a bag 3 and a reinforcing sleeve 5 attached to the bag 3. The bag has an open end 7, a closed end 9, and an interior space 17 for holding a product. The interior space 17 may be accessible through a notch 15 in the bag 3. The reinforcing sleeve 5 is configured to at least partially receive a portion 11 of the closed end 9 of the bag 3.
- [0019] As illustrated in Fig. 2, a blank 10 for forming the reinforcing sleeve 5 has a lateral axis L1 and a longitudinal axis L2. In the illustrated embodiment, the blank 10 has a front panel 21 foldably connected to a first side panel 28 at a first arcuate fold line 33. The first side panel 28 includes two individual panel portions 28A, 28B foldably connected to one another at lateral fold line 26. A first back panel 23 is foldably connected to the first side panel 28 at a second arcuate fold line 31. A second side panel 29 is foldably connected to the front panel 21 at a third arcuate fold line 35. The second side panel 29 includes two individual panel portions 29A, 29B foldably connected to one another at lateral fold line 27. A second back panel 25 is foldably connected to the second side panel 29 at a fourth arcuate fold line 37. As illustrated, the arcuate fold lines 31, 33 are spaced apart from lateral fold line 26. Similarly, the arcuate fold lines 35, 37 are spaced apart from lateral fold line 27. In

alternative embodiments, the blank 10 can have alternative panel, fold line, and/or panel portion arrangements.

[0020] In the illustrated embodiment, the blank 10 can include one or more adhesive regions 41, 43, and 45 on the first back panel 23, front panel 21, and/or second back panel 25, respectively, for receiving adhesive and being fixedly attached to an exterior surface of the bag 3. Furthermore, the blank 10 has a first edge 52 and a bottom edge 53 extending in the longitudinal direction L2. In one embodiment, the adhesive regions 41, 43, 45 are separated from the first edge 52 by a first distance D1 and are separated from the bottom edge 53 by a second distance D2. In one embodiment, the first distance D1 is less than the second distance D2. The first and second side panels 28, 29 and regions separate from the adhesive regions 41, 43, 45 may be generally free from adhesive in some embodiments, or may include adhesive in alternative embodiments. Additionally, the first and second distances D1, D2, adhesive regions 41, 43, 45, and/or edges 52, 53 can be otherwise arranged, shaped, modified, or omitted without departing from the scope of this disclosure.

[0021] Generally, the blank 10 may be folded about fold lines 26, 27 to create the reinforcing sleeve 5. For example, distal ends 55, 57 of the first and second back panels 23, 25 may be overlapped, and the sleeve 5 attached to the bag 3 as illustrated in Figs. 1, 3, and 4. The individual panel portions 28A, 28B, 29A, and 29B may be in face-to-face registration in a first, non-erect position of the bag 3 as illustrated in Fig. 1. The first, non-erect position illustrated reduces and/or minimizes a volume of the interior space 17 such that the package 1 is in a non-erect or flattened state. The non-erect state may facilitate easy stacking of a plurality of packages into, for example, a shipment container and subsequent organization at a destination facility. The individual panel portions 28A, 28B, 29A, and 29B may be flexed or positioned to form first and second sides 58, 59 of the package 1 in a second, erect position of the bag 3 as illustrated in Figs. 3-4. The second, erect position illustrated increases and/or maximizes a volume of the interior space 17 such that the package 1 is in an erect or self-supporting state. The closed end 9 of the bag 3 can extend upwardly into an interior 56 of the sleeve 5 in the direction of arrow A1 while the package is in the erect state (Fig. 3). Furthermore, the bottom edge 53 forms a support when the package 1 is in the erect state for contacting a surface S (Fig. 4). The support formed of the bottom edge 53 maintains the package in an upright position on the surface S. As further illustrated in Figs. 3-4, gusseted sides 60 of the bag 3 may be maintained extended when the package 1 is in the erect state. Other intervening states of the package 1 including intermediate states whereby the package 1 is not fully erected are also applicable according to some embodiments. Furthermore, additional reinforcing sleeves of differing configurations are also applicable according to some embodiments.

[0022] For example, turning to Fig. 5, a reinforced package generally indicated at 61 is illustrated, according to a second embodiment of the disclosure. The package 61 includes the bag 3 and a reinforcing sleeve 6 attached to the bag 3. The reinforcing sleeve 6 is configured to at least partially receive a portion 11 of the closed end 9 of the bag 3.

- [0023] As illustrated in Fig. 6, a blank 70 for forming the reinforcing sleeve 6 has a lateral axis L1 and a longitudinal axis L2. In the illustrated embodiment, the blank 70 has a front panel 71 foldably connected to a first side panel 78 at a first arcuate fold line 83. The first side panel 78 includes two individual panel portions 78A, 78B foldably connected to one another at lateral fold line 76. A first back panel 73 is foldably connected to the first side panel 78 at a second arcuate fold line 81. A second side panel 79 is foldably connected to the front panel 71 at a third arcuate fold line 85. The second side panel 79 includes two individual panel portions 79A, 79B foldably connected to one another at lateral fold line 77. A second back panel 75 is foldably connected to the second side panel 79 at a fourth arcuate fold line 87. As illustrated, the arcuate fold lines 81, 83 converge at one end of the lateral fold line 76 and are spaced apart at another end of the lateral fold line 76. Similarly, the arcuate fold lines 85, 87 converge at one end of the lateral fold line 77 and are spaced apart at another end of the lateral fold line 77. In alternative embodiments, the blank 70 can have alternative panel, fold line, and/or panel portion arrangements.
- [0024] In the illustrated embodiment, the blank 70 can include one or more adhesive regions 91, 93, and 95 on the first back panel 73, front panel 71, and/or second back panel 75, respectively, for receiving adhesive and being fixedly attached to an exterior surface of the bag 3. Furthermore, the blank 70 has a first edge 102 and a bottom edge 103 extending in the longitudinal direction L2. In one embodiment, the adhesive regions 91, 93, 95 are separated from the first edge 102 and the bottom edge 103. The first and second side panels 78, 79 and regions separate from the adhesive regions 91, 93, 95 may be generally free from adhesive in some embodiments, or may include adhesive in alternative embodiments. Additionally, adhesive regions 91, 93, 95, and/or edges 102, 103 can be otherwise arranged, shaped, modified, or omitted without departing from the scope of this disclosure.
- [0025] Generally, the blank 70 may be folded about fold lines 76, 77 to create the reinforcing sleeve 6. For example, distal ends 105, 107 of the first and second back panels 73, 75 may be overlapped, and the sleeve 6 attached to the bag 3 as illustrated in Figs. 5 and 7. The individual panel portions 78A, 78B, 79A, and 79B may be in face-to-face registration in a first, non-erect position of the bag 3 as illustrated in Fig. 5. The first, non-erect position illustrated reduces and/or minimizes a volume of the interior space 17 such that the package 1 is in a non-erect or flattened state. The non-erect state may facilitate easy stacking of a plurality of packages into, for example, a shipment container and subsequent organization at a destination facility as described with reference to the first embodiment. The individual panel portions 78A, 78B, 79A, and 79B may be flexed or positioned to form first and second sides 108, 109 of the package 1 in a second, erect position of the bag 3 as illustrated in Fig. 7. The second, erect position illustrated increases and/or maximizes a volume of the interior space 17 such that the package 1 is in an erect or self-supporting state as illustrated in Fig. 7. The closed end 9 of the bag 3 can be entirely received by the sleeve 6 in the illustrated embodiments. Furthermore, the front panel 71 and the overlapped first and second back panels 73, 75 converge on the bottom edge 103 allowing the entire package 7 to be inclined on the surface S in a fully-maintained erect state. As

further illustrated in Fig.7, gusseted sides 60 of the bag 3 may be maintained extended when the package 7 is in the erect state. Other intervening states of the package 7 including intermediate states whereby the package 7 is not fully erected are also applicable according to some embodiments. Furthermore, additional bags of differing configurations are also applicable according to some embodiments.

- [0026] For example, Fig. 8 is a perspective view of an alternative reinforced package 111, according to a third embodiment of the disclosure. The package includes a bag 113 and either the reinforcing sleeve 5 or 6 attached to the bag 113. The bag 113 has an open end 107, a closed end 109, and an interior space 117 for holding a product. The interior space 117 may be accessible through a flap 115 in the bag 113. The bag 113 may also include gusseted sides 119 which may be maintained in an erect position through use of the reinforcing sleeves 5, 6 as described above.
- [0027] Fig. 9 is a plan view of an exterior surface of blank 200 for forming a reinforcing sleeve, according to a fourth embodiment of the disclosure, having similar features as the second embodiment. Accordingly, similar or identical features of the embodiments are provided with identical or similar reference numbers. The blank 200 includes a front panel 271 foldably connected to a back panel 273 at lateral fold line 203. Side panel portions 278A, 278B, 279A, and 279B are foldably connected to the front and back panels 271, 273 at respective arcuate fold lines 281, 283, 285, 287. Glue tabs 205 are foldably connected to side panel portions 278A, 279B at longitudinal fold lines 207, and are for adhering to side panel portions 278B, 279B, respectively. Generally, when adhered and constructed as a reinforcing sleeve, panels 271, 273 converge at fold line 203 and edges 202A, 202B form a first edge of the sleeve.
- [0028] Generally, as described herein, bags can be formed from a paper stock material, although various plastic or other bag materials also can be used, and can be lined or coated with a desired material. The reinforcing sleeves described herein can be made from a more rigid material such as a clay-coated natural kraft ("CCNK"). Other materials such various card-stock, paper, plastic or other synthetic or natural materials also can be used to form the components of the packages described herein.
- [0029] While the present invention is described herein in detail in relation to specific aspects and embodiments, it is to be understood that this detailed description is only illustrative and exemplary of the present invention and is made merely for purposes of providing a full and enabling disclosure of the present invention and to set forth the best mode of practicing the invention known to the inventors at the time the invention was made. The detailed description set forth herein is illustrative only and is not intended, nor is to be construed, to limit the present invention or otherwise to exclude any such other embodiments, adaptations, variations, modifications, and equivalent arrangements of the present invention. All directional references (e.g., upper, lower, upward, downward, left, right, leftward, rightward, top, bottom, above, below, vertical, horizontal, clockwise, and counterclockwise) are used only for identification purposes to aid the reader's understanding of the various embodiments of the present invention, and do not create limitations, particularly as to the position, orientation, or use of

the invention unless specifically set forth in the claims. Joinder references (e.g., joined, attached, coupled, connected, and the like) are to be construed broadly and may include intermediate members between a connection of elements and relative movement between elements. As such, joinder references do not necessarily imply that two elements are connected directly and in fixed relation to each other. Further, various elements discussed with reference to the various embodiments may be interchanged to create entirely new embodiments coming within the scope of the present invention.

What is claimed is:

1. A reinforced package, comprising:
a bag comprising an open end, a closed end, and an interior space for holding a product, the bag being positionable in a non-erect position wherein the interior space is reduced and in an erect position wherein the interior space is increased; and
a reinforcing sleeve attached to the bag and comprising a plurality of panels configured to at least partially receive the closed end of the bag, the plurality of panels comprising a front panel, a first side panel foldably connected to the front panel, a second side panel foldably connected to the front panel, and at least one back panel foldably connected to one of the first and second side panels;
wherein the reinforcing sleeve is configured to maintain the bag in the erect position.
2. The package of claim 1, wherein the plurality of panels further comprises:
a third side panel foldably connected to the first side panel; and
a fourth side panel foldably connected to the second side panel;
wherein the at least one back panel is foldably connected to one of the third and fourth side panels.
3. The package of claim 2, wherein the at least one back panel is a first back panel, the first back panel is foldably connected to the third side panel, and the plurality of panels further comprises:
a second back panel foldably connected to the fourth side panel.
4. The package of claim 3, wherein the first side panel and the second side panel are foldably connected to the front panel at respective arcuate fold lines.
5. The package of claim 3, wherein the first back panel at least partially overlaps the second back panel.
6. The package of claim 2, wherein the first side panel and the third side panel form a first side of the package when the bag is positioned in the erect position, and the second side panel and the fourth side panel form a second side of the package when the bag is positioned in the erect position.
7. The package of claim 2, wherein the reinforcing sleeve further comprises a first edge and a bottom edge, and the bag extends upward from the first edge.

8. The package of claim 2, wherein the reinforcing sleeve further comprises a first edge and a bottom edge, the bottom edge forms a support when the bag is positioned in the erect configuration, the support is for contacting a surface to maintain the package in an upright positioning on the surface.

9. The package of claim 8, wherein the support comprises a first edge of the front panel and a second edge of the back panel, the first edge and the second edge being spaced apart.

10. The package of claim 2, wherein the reinforcing sleeve further comprises a first edge and a bottom edge, the front panel and the back panel converge at the bottom edge of the package.

11. The package of 2, wherein the first side panel is foldably connected to the front panel at a first arcuate fold line, the third side panel is foldably connected to the first side panel at a first straight fold line, the at least one back panel is foldably connected to the third side panel at a second arcuate fold line, the first arcuate fold line and the second arcuate fold line are spaced apart from the first straight fold line.

12. The package of 11, wherein the second side panel is foldably connected to the front panel at a third arcuate fold line, the fourth side panel is foldably connected to the second side panel at a second straight fold line, the at least one back panel is foldably connected to the fourth side panel at a fourth arcuate fold line, the third arcuate fold line and the fourth arcuate fold line are spaced apart from the second straight fold line.

13. The package of claim 2, wherein the first side panel is foldably connected to the front panel at a first arcuate fold line, the third side panel is foldably connected to the first side panel at a first straight fold line, the at least one back panel is foldably connected to the third side panel at a second arcuate fold line, the first arcuate fold line and the second arcuate fold line intersect at the first straight fold line.

14. The package of claim 13, wherein the second side panel is foldably connected to the front panel at a third arcuate fold line, the fourth side panel is foldably connected to the second side panel at a second straight fold line, the at least one back panel is foldably connected to the fourth side panel at a fourth arcuate fold line, the third arcuate fold line and the fourth arcuate fold line intersect at the second straight fold line.

15. The package of claim 1, wherein the bag further comprises a notch adjacent the open end for access to the interior space of the bag.

16. The package of claim 1, wherein the bag further comprises a flap adjacent the open end for access to the interior space of the bag.

17. The package of claim 1, wherein the bag comprises gusseted sides adjacent the first and second side panels.

18. The package of claim 1, wherein at least a portion of the front panel is fixedly attached to an exterior surface of the bag.

19. The package of claim 18, wherein at least a portion of the at least one back panel is fixedly attached to the exterior surface of the bag.

20. The package of claim 1, wherein the front panel includes an adhesive region, the adhesive region is separate from a top free edge of the front panel by a first distance, the adhesive region is separate from a bottom free edge of the front panel by a second distance, and the first distance is less than the second distance.

21. The package of claim 20, wherein the closed end of the bag is configured to extend upwards towards the adhesive region when the bag is positioned in the erect position.

22. A reinforcing sleeve for receiving a bag, comprising:
a plurality of panels configured to at least partially receive the bag, the plurality of panels comprising a front panel, a first side panel foldably connected to the front panel, a second side panel foldably connected to the front panel, and at least one back panel foldably connected to one of the first and second side panels, wherein the reinforcing sleeve is configured to maintain the received bag in an erect position against a surface.

23. The reinforcing sleeve of claim 22, wherein the plurality of panels further comprises:
a third side panel foldably connected to the first side panel; and
a fourth side panel foldably connected to the second side panel;
wherein the at least one back panel is foldably connected to one of the third and fourth side panels.

24. The reinforcing sleeve of claim 23, wherein the at least one back panel is a first back panel, the first back panel is foldably connected to the third side panel, and the plurality of panels further comprises:

a second back panel foldably connected to the fourth side panel.

25. The reinforcing sleeve of claim 24, wherein the first side panel and the second side panel are foldably connected to the front panel at respective arcuate fold lines.

26. The reinforcing sleeve of claim 24, wherein the first back panel is for at least partially overlapping the second back panel.

27. The reinforcing sleeve of claim 23, wherein the first side panel and the third side panel are for forming a first side of the sleeve, and the second side panel and the fourth side panel are for forming a second side of the sleeve.

28. The reinforcing sleeve of claim 23, further comprising a first edge and a bottom edge, and the received bag is configured to extend upward from the first edge.

29. The reinforcing sleeve of claim 23, further comprising a first edge and a bottom edge, the bottom edge forms a support, the support is for contacting the surface to maintain the sleeve and the received bag in an upright position on the surface.

30. The reinforcing sleeve of claim 29, wherein the support comprises a first edge of the front panel and a second edge of the back panel, the first edge and the second edge being spaced apart.

31. The reinforcing sleeve of claim 23, further comprising a first edge and a bottom edge, the front panel and the back panel converge at the bottom edge of the package.

32. The package of 23, wherein the first side panel is foldably connected to the front panel at a first arcuate fold line, the third side panel is foldably connected to the first side panel at a first straight fold line, the at least one back panel is foldably connected to the third side panel at a second arcuate fold line, the first arcuate fold line and the second arcuate fold line are spaced apart from the first straight fold line.

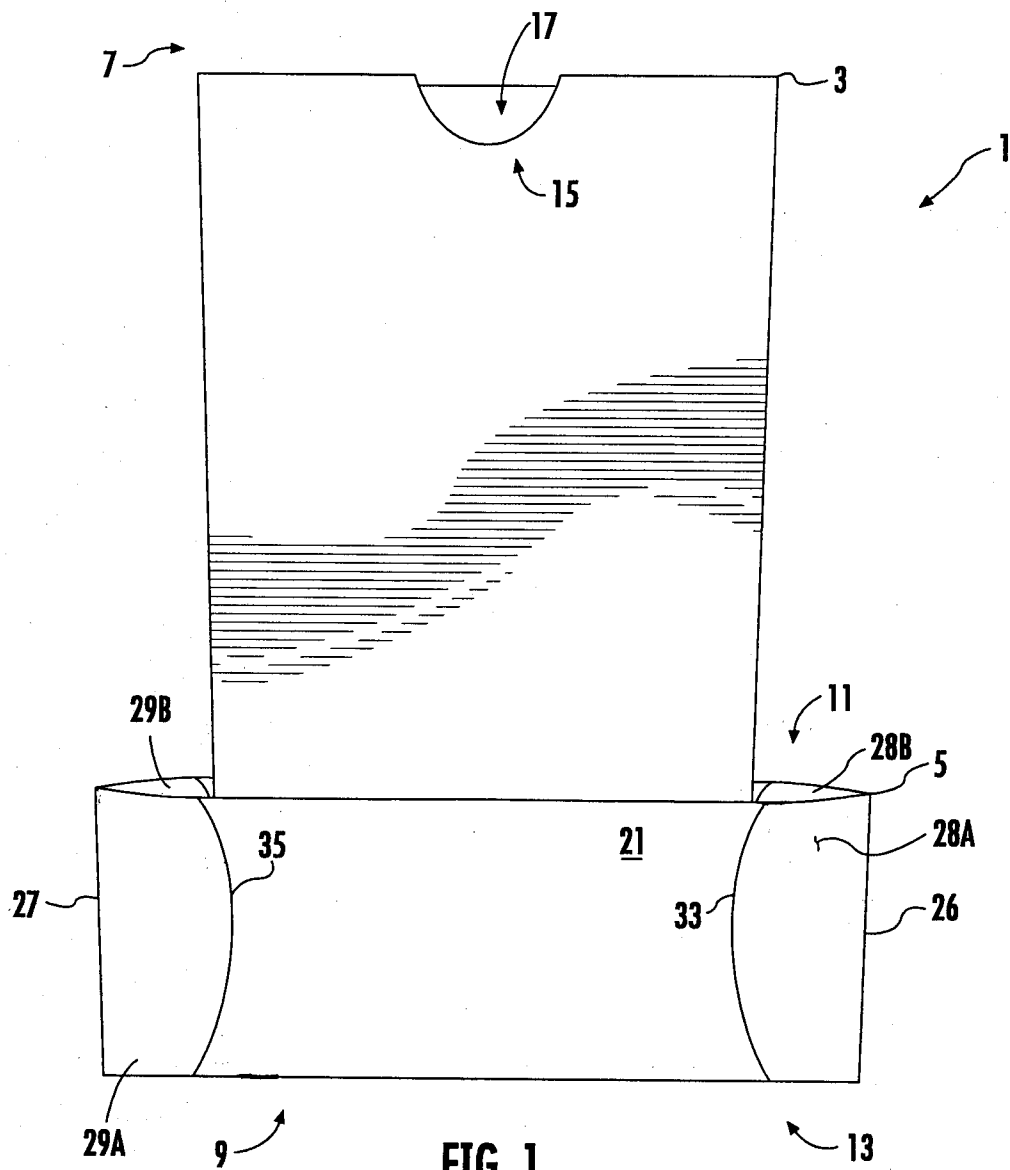
33. The package of 32, wherein the second side panel is foldably connected to the front panel at a third arcuate fold line, the fourth side panel is foldably connected to the second side panel at a second straight fold line, the at least one back panel is foldably connected to the fourth side panel at a fourth arcuate fold line, the third arcuate fold line and the fourth arcuate fold line are spaced apart from the second straight fold line.

34. The package of claim 23, wherein the first side panel is foldably connected to the front panel at a first arcuate fold line, the third side panel is foldably connected to the first side panel at a first straight fold line, the at least one back panel is foldably connected to the third side panel at a second arcuate fold line, the first arcuate fold line and the second arcuate fold line intersect at the first straight fold line.

35. The package of claim 34, wherein the second side panel is foldably connected to the front panel at a third arcuate fold line, the fourth side panel is foldably connected to the second side panel at a second straight fold line, the at least one back panel is foldably connected to the fourth side panel at a fourth arcuate fold line, the third arcuate fold line and the fourth arcuate fold line intersect at the second straight fold line.

36. The reinforcing sleeve of claim 22, wherein the front panel includes an adhesive region, the adhesive region is separate from a top free edge of the front panel by a first distance, the adhesive region is separate from a bottom free edge of the front panel by a second distance, and the first distance is less than the second distance.

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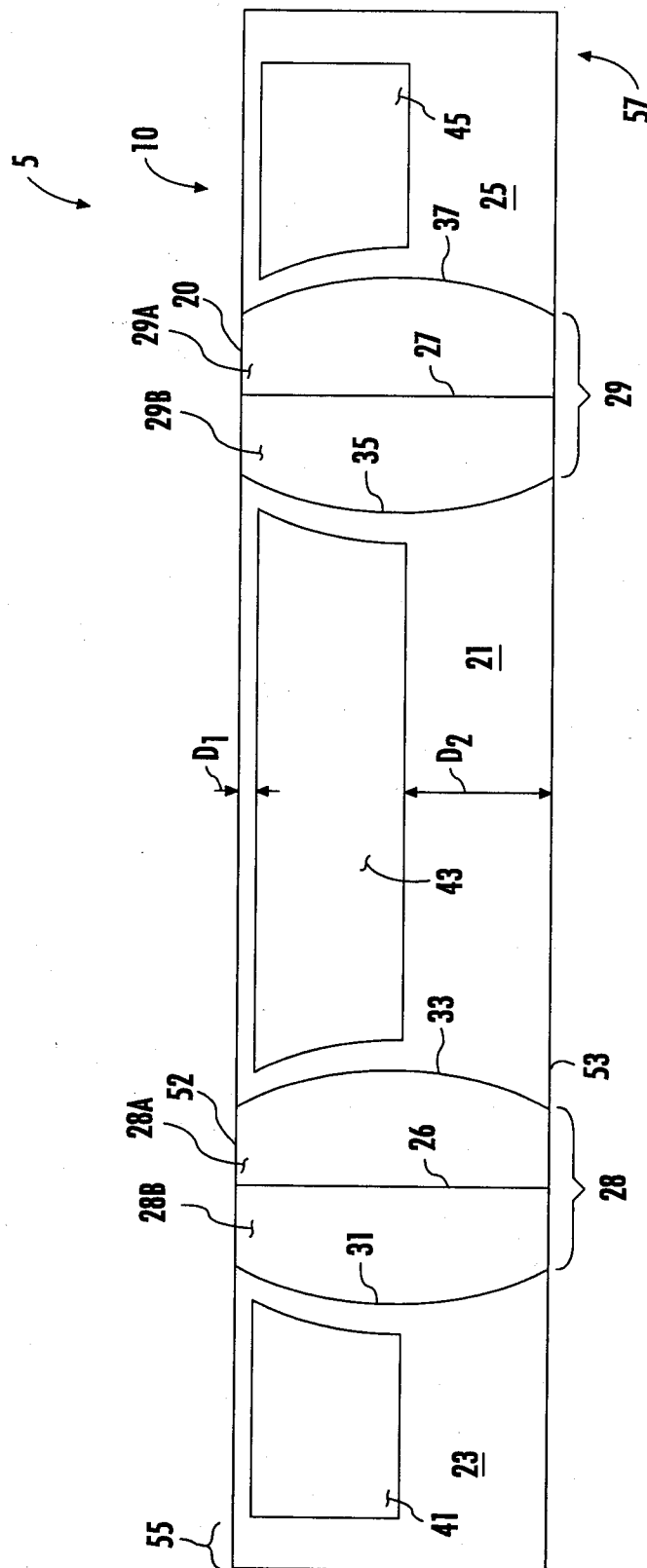


FIG. 2

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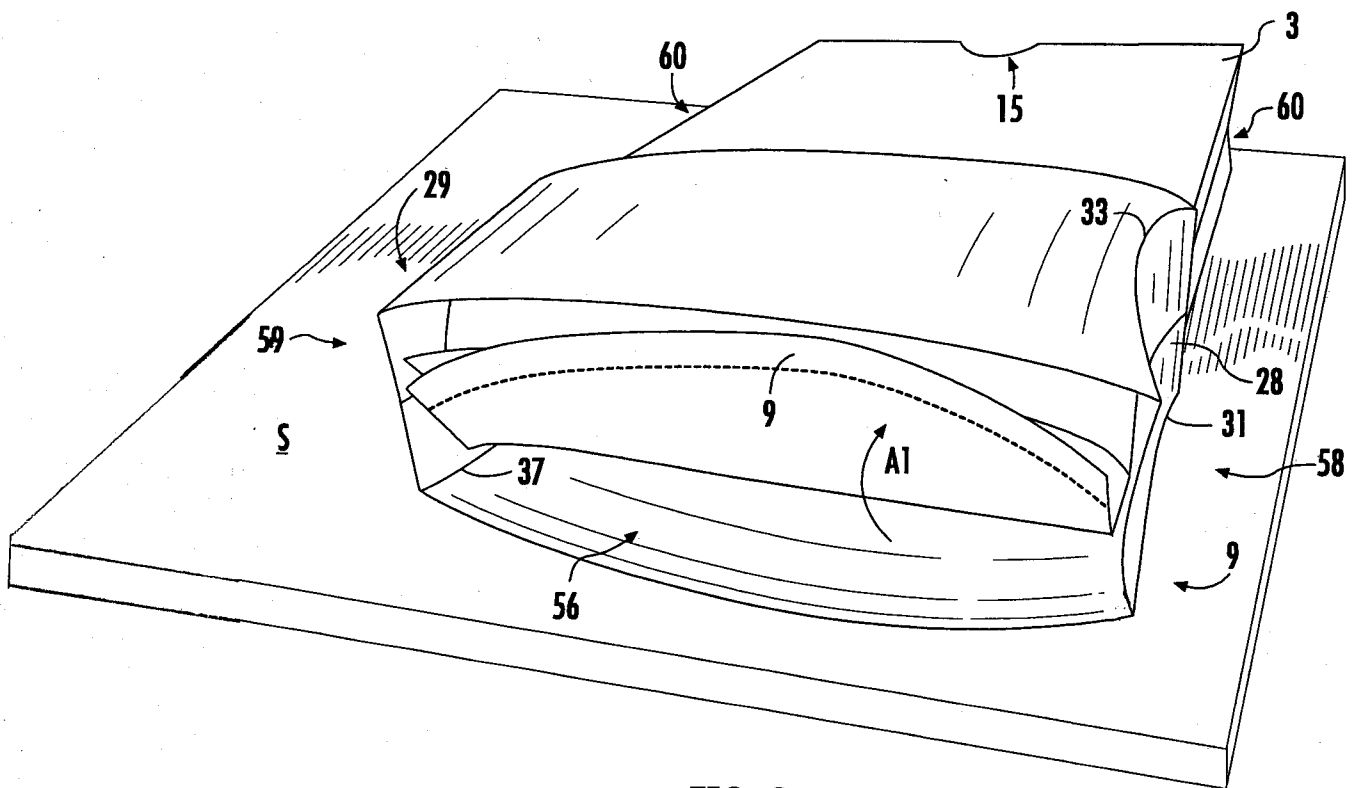


FIG. 3

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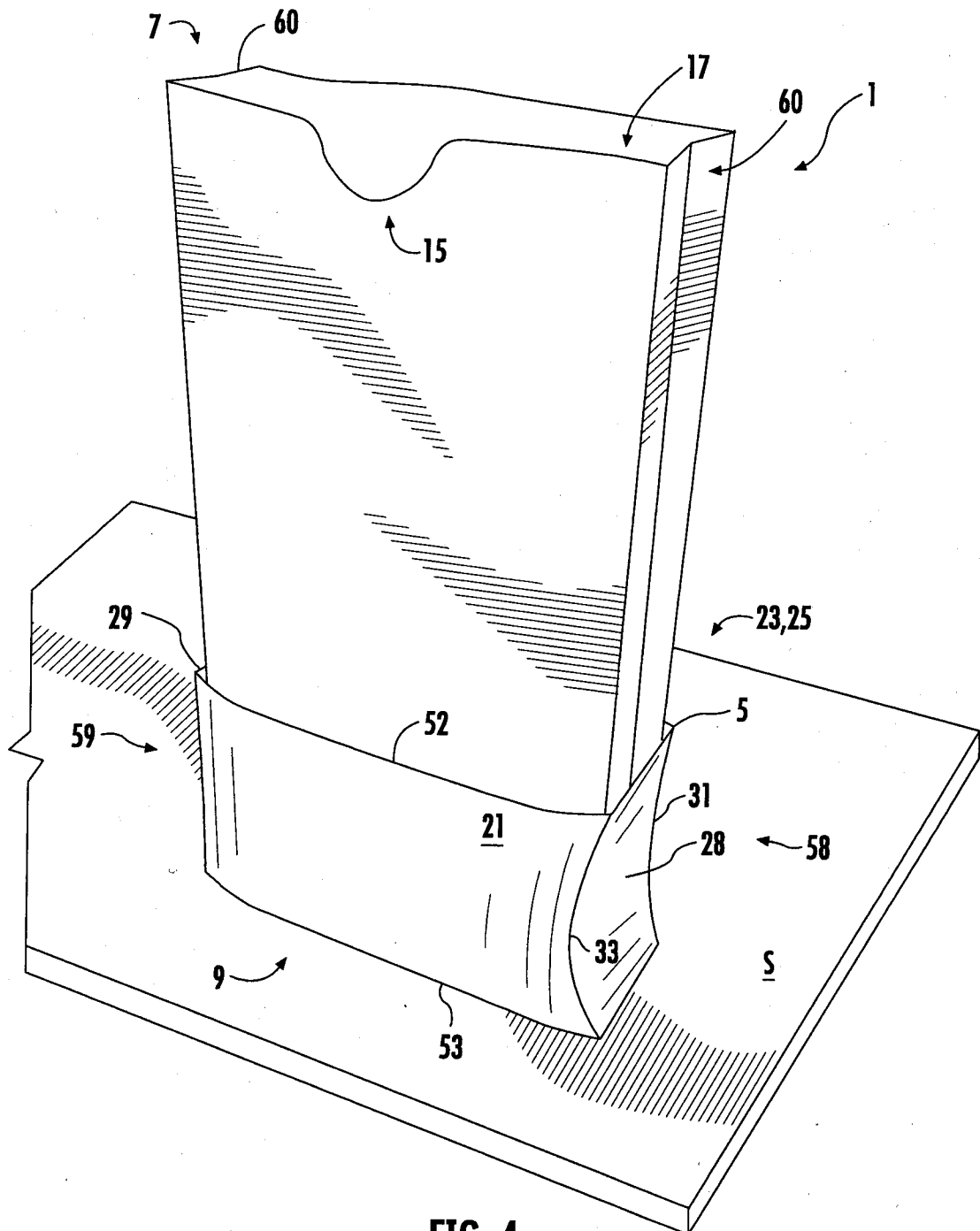
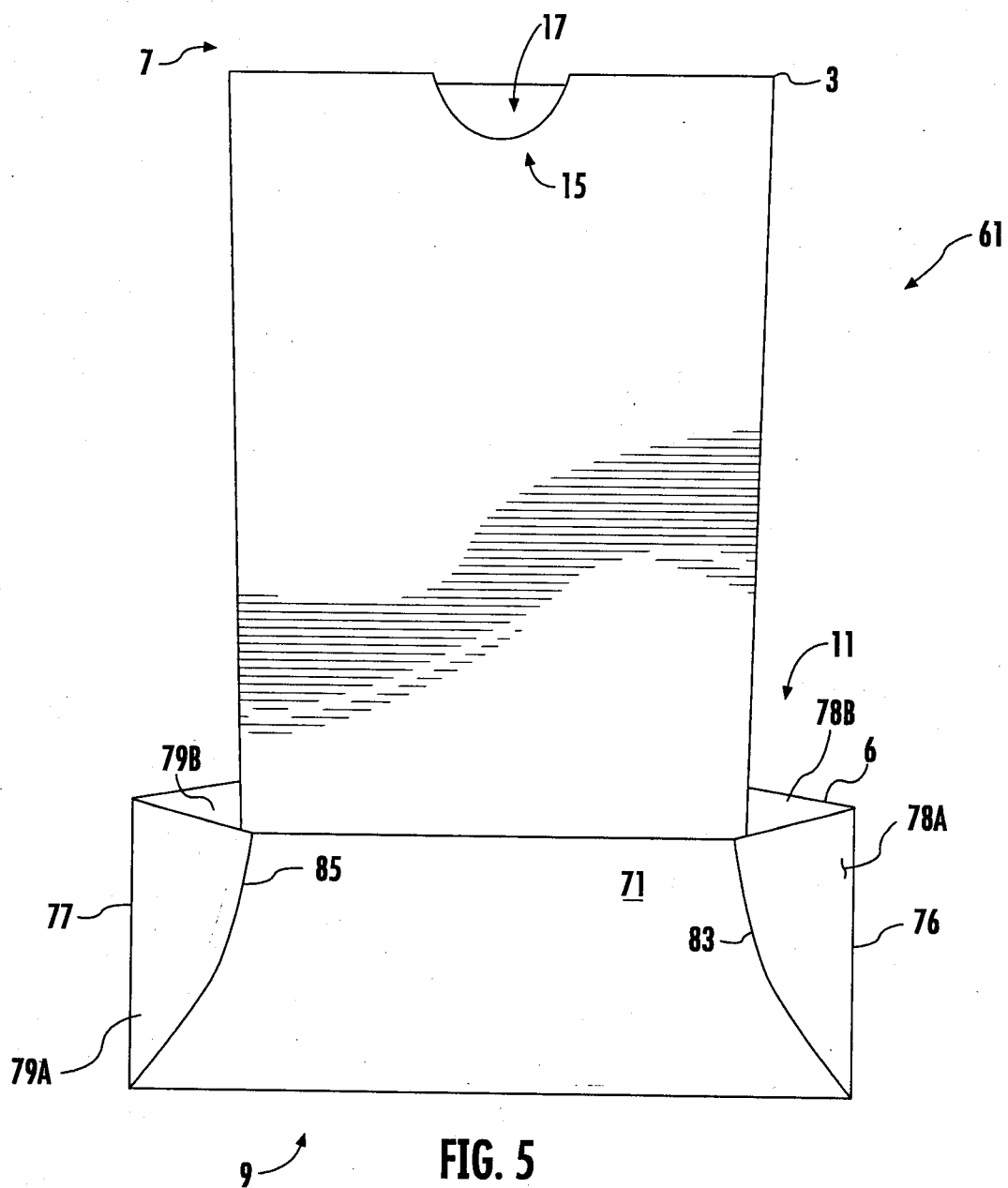


FIG. 4

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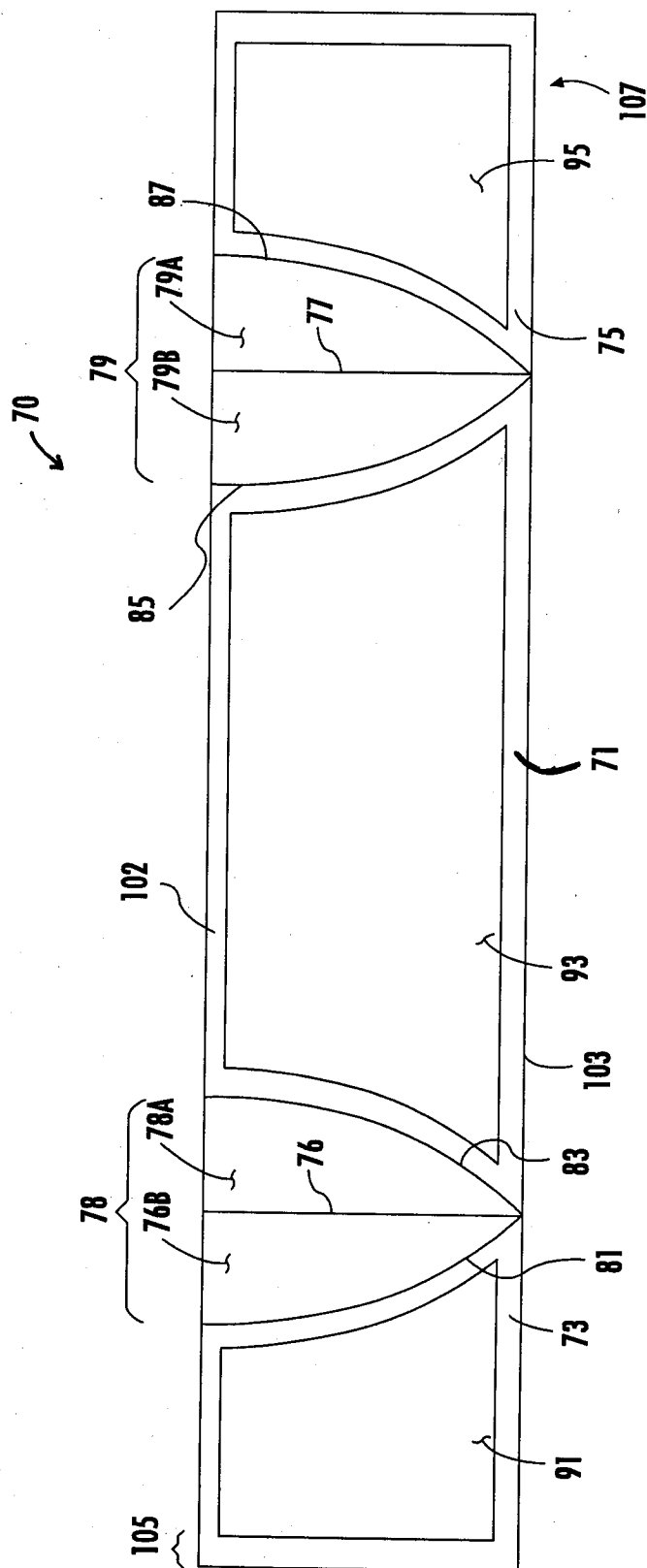
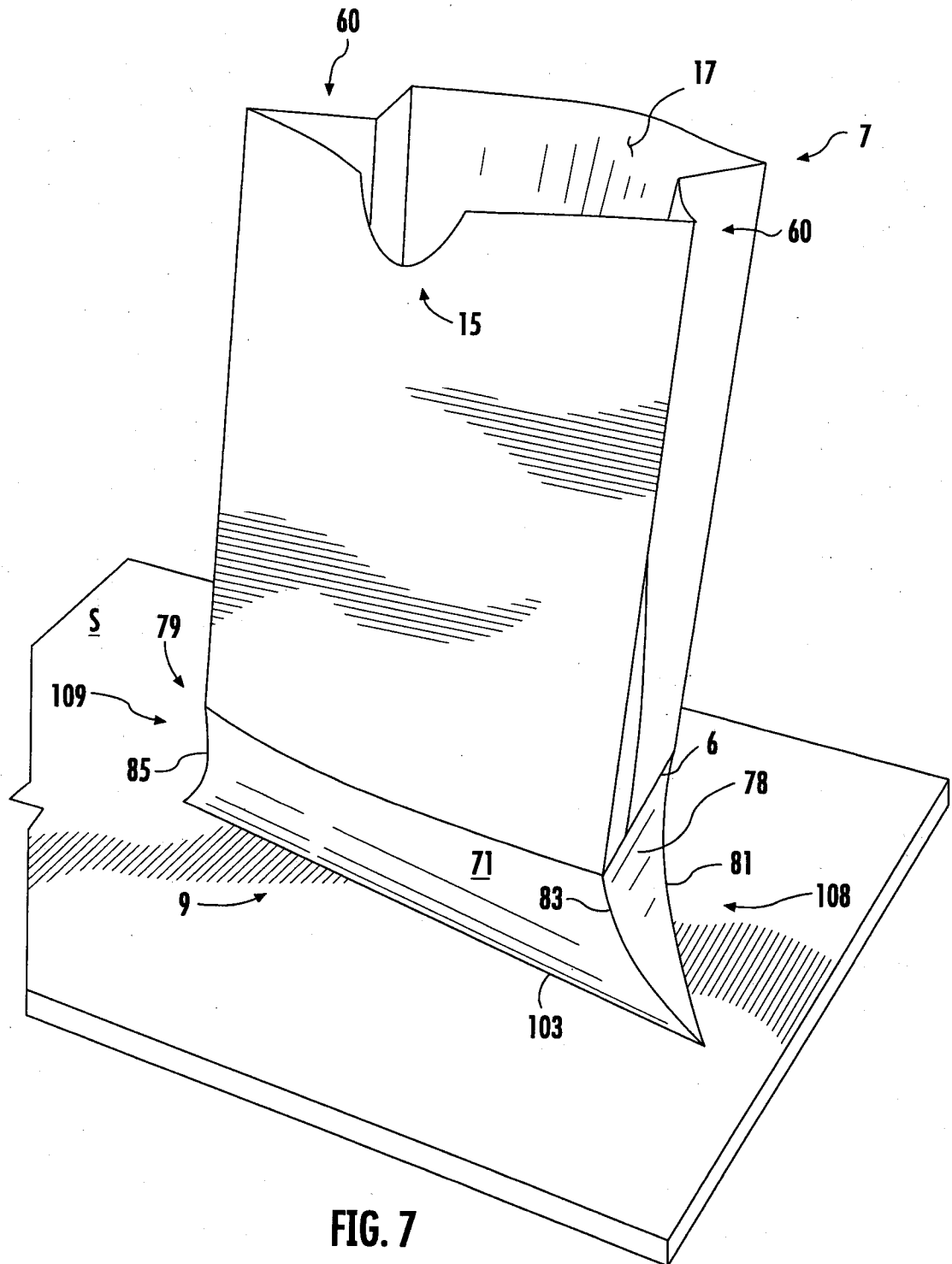
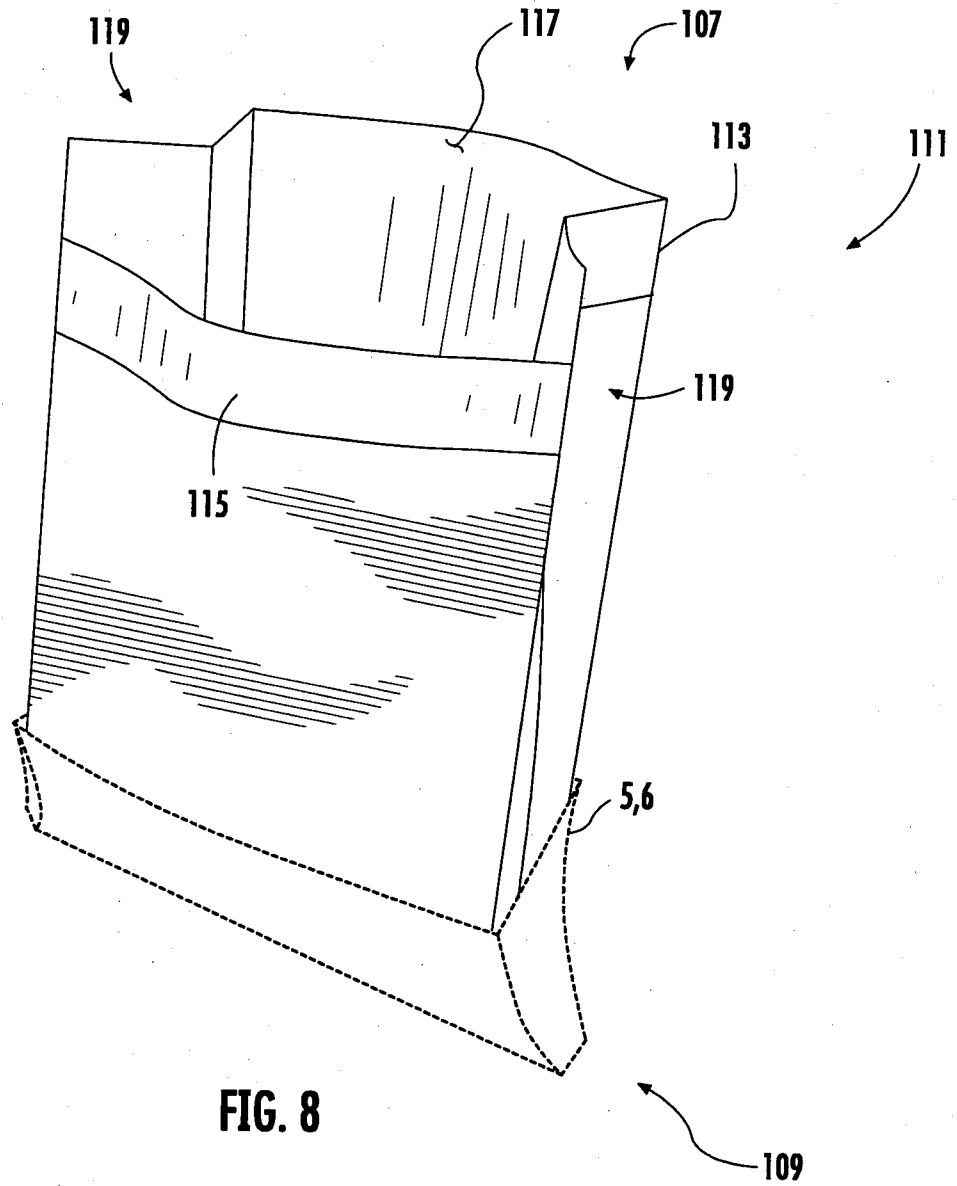


FIG. 6

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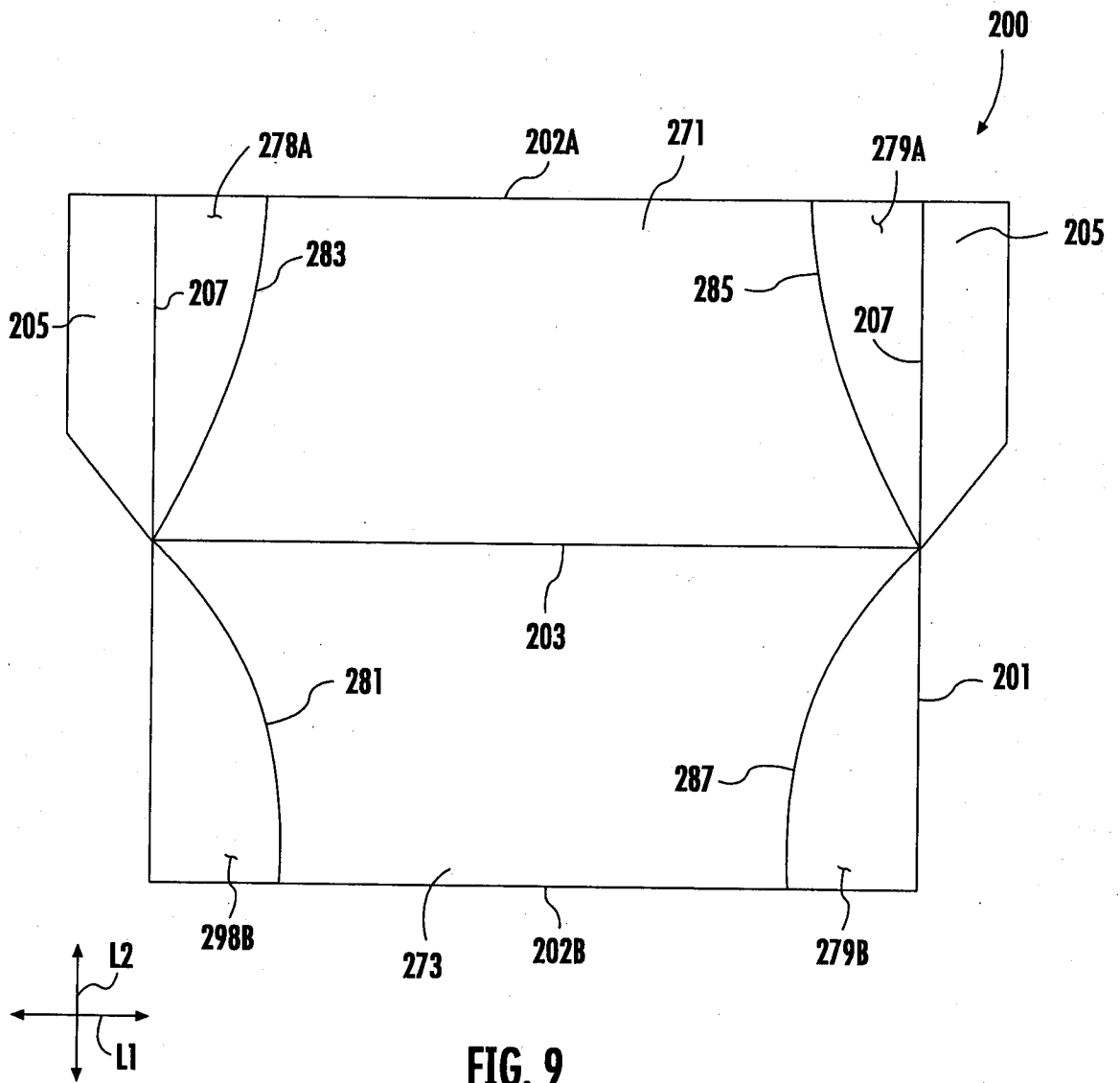


FIG. 9

A. CLASSIFICATION OF SUBJECT MATTER**B65D 33/02(2006.01)i, B65D 25/20(2006.01)i, B65D 5/36(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B65D 33/02; B65D 33/00; B65D 30/20; B65D 25/20; B65D 5/36

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: reinforced package, bag, sleeve, erect

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2011-251774 A (DAINIPPON PRINTING CO., LTD.) 15 December 2011 See abstract, paragraphs [0013]–[0029], claims 1–6, and figures 1–8.	1–14, 17–36
Y		15, 16
Y	WO 2013-003149 A (THE GLAD PRODUCTS COMPANY) 03 January 2013 See abstract, paragraphs [0071]–[0076], claims 1–13, and figures 1–2C.	15
Y	US 2012-224794 A1 (VENDER, JOHN T.) 06 September 2012 See abstract, paragraphs [0035]–[0045], claims 1–24, and figures 1–8.	16
A	JP 2010-222050 A (HOUSE FOODS CORP.) 07 October 2010 See abstract, paragraphs [0008]–[0068], claims 1–9, and figures 1–19.	1–36
A	US 2009-0214142 A1 (BOSSEL et al.) 27 August 2009 See abstract, paragraphs [0026]–[0040], claims 1–14, and figures 1–6.	1–36



Further documents are listed in the continuation of Box C.



See patent family annex.

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Date of the actual completion of the international search

02 December 2013 (02.12.2013)

Date of mailing of the international search report

04 December 2013 (04.12.2013)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2013/031451

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