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(19) **United States**(12) **Patent Application Publication****Liao et al.**(10) **Pub. No.: US 2009/0173649 A1**(43) **Pub. Date: Jul. 9, 2009**(54) **BENDABLE MULTI-SECTIONAL
CUSHIONING COVER BAG****Publication Classification**(51) **Int. Cl.**
B65D 85/00 (2006.01)(52) **U.S. Cl.** **206/326**(57) **ABSTRACT**

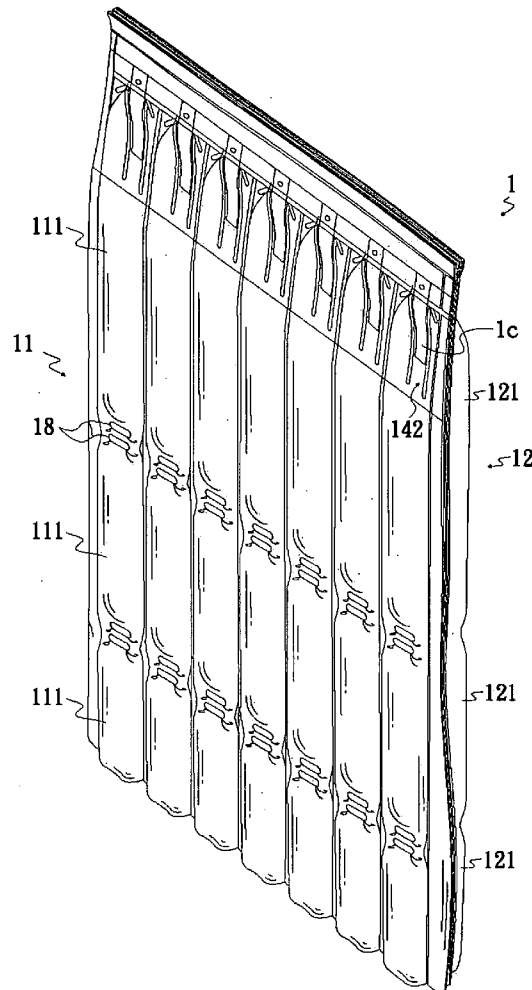
A bendable multi-sectional cushioning packing cover bag used for packing an article includes a packing box, a first air cylinder sheet, a second air cylinder sheet and a light reflection sheet, where one end of the second air cylinder sheet is connected to the first air cylinder sheet to allow the second air cylinder sheet to communicate with the first air cylinder sheet, and a plurality of first cushioning sections of the first air cylinder sheet correspond to a plurality of second cushioning sections of the second air cylinder sheet. Three sides of each second cushioning section are adhered to three sides of the first cushioning section corresponding thereto by means of hot sealing to form a storage space to accept the article, and at least one second cushioning section is lodged in a window of the packing box to allow the first air cylinder sheet and the second air cylinder sheet to be placed in the packing box, and the light reflection sheet may be used for reflecting light onto the article.

(75) Inventors: **Chieh Hua Liao**, Sindian City
(TW); **Yaw Shin Liao**, Sindian City
(TW); **Yao Chuan Liao**, Sindian
City (TW)

Correspondence Address:

APEX JURIS, PLLC
12733 LAKE CITY WAY NORTHEAST
SEATTLE, WA 98125 (US)(73) Assignee: **Chieh Hua Liao**, Sindian City
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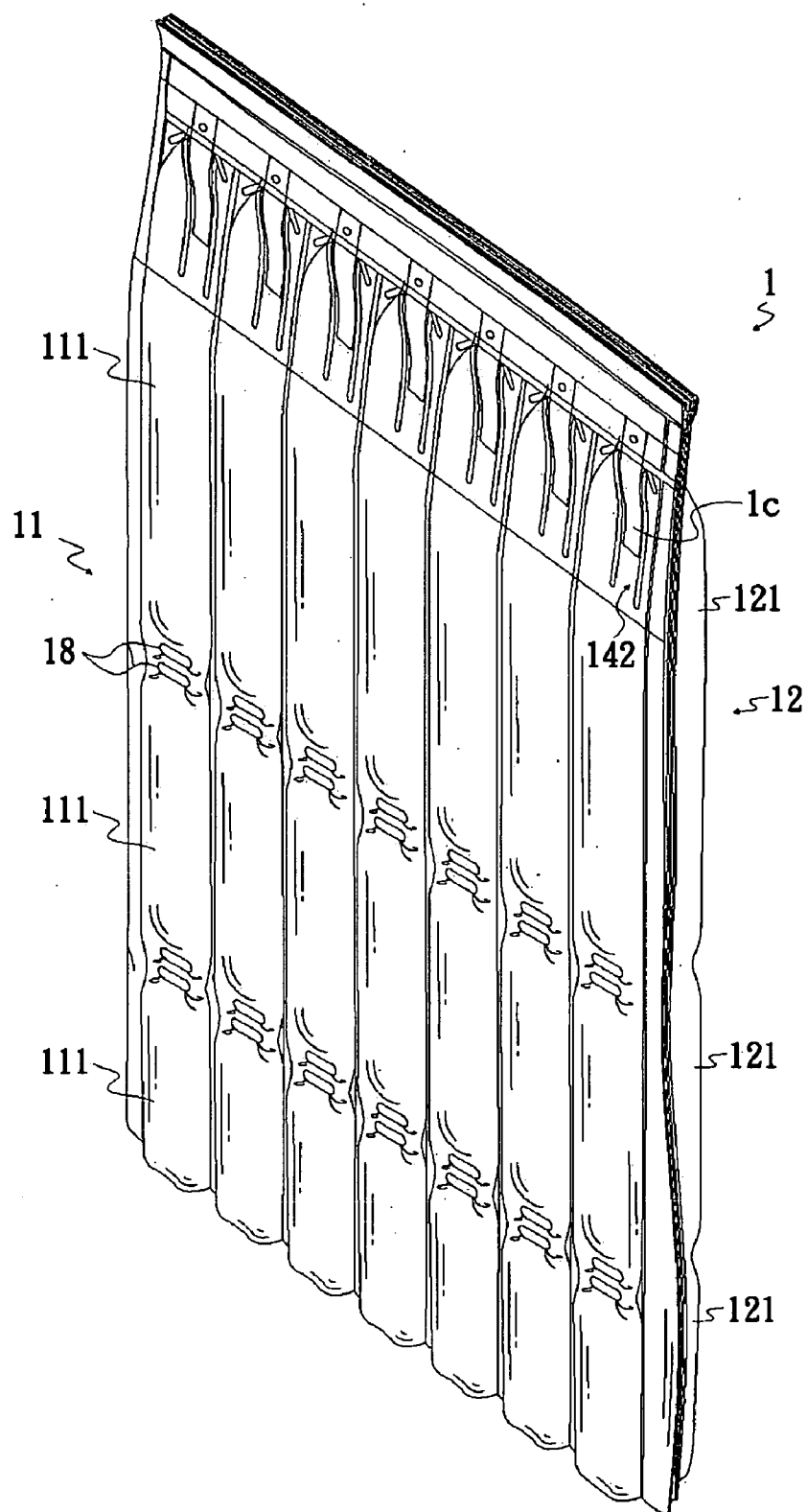


FIG. 1

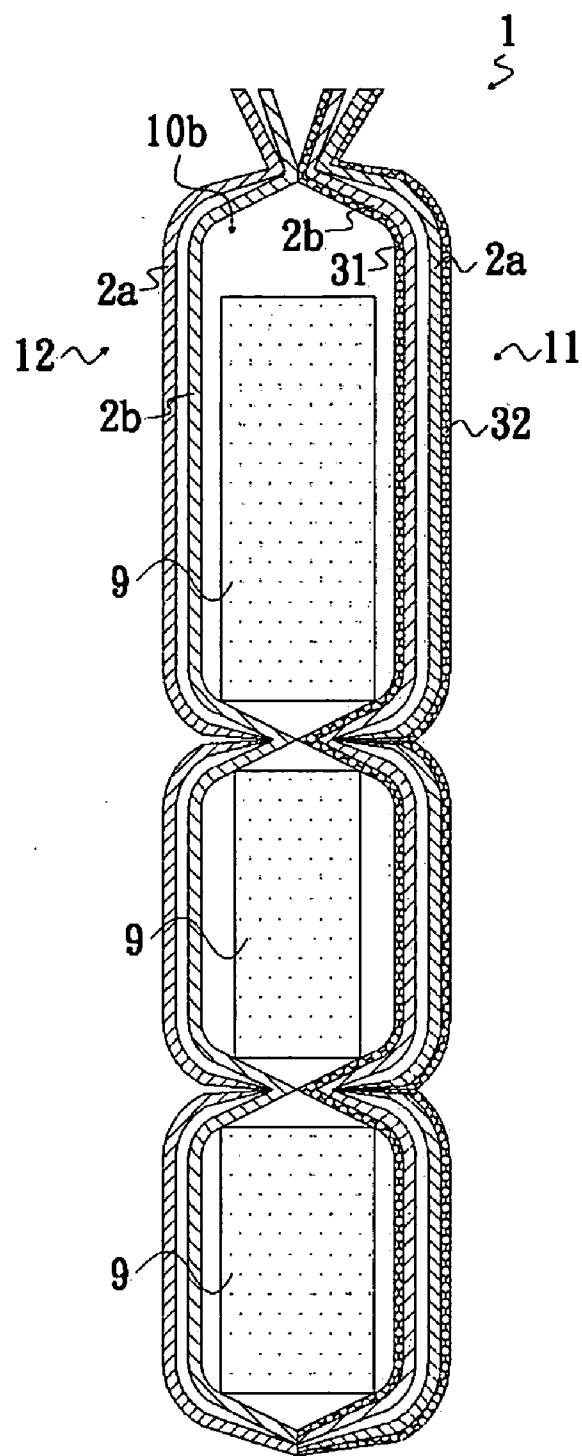


FIG. 2

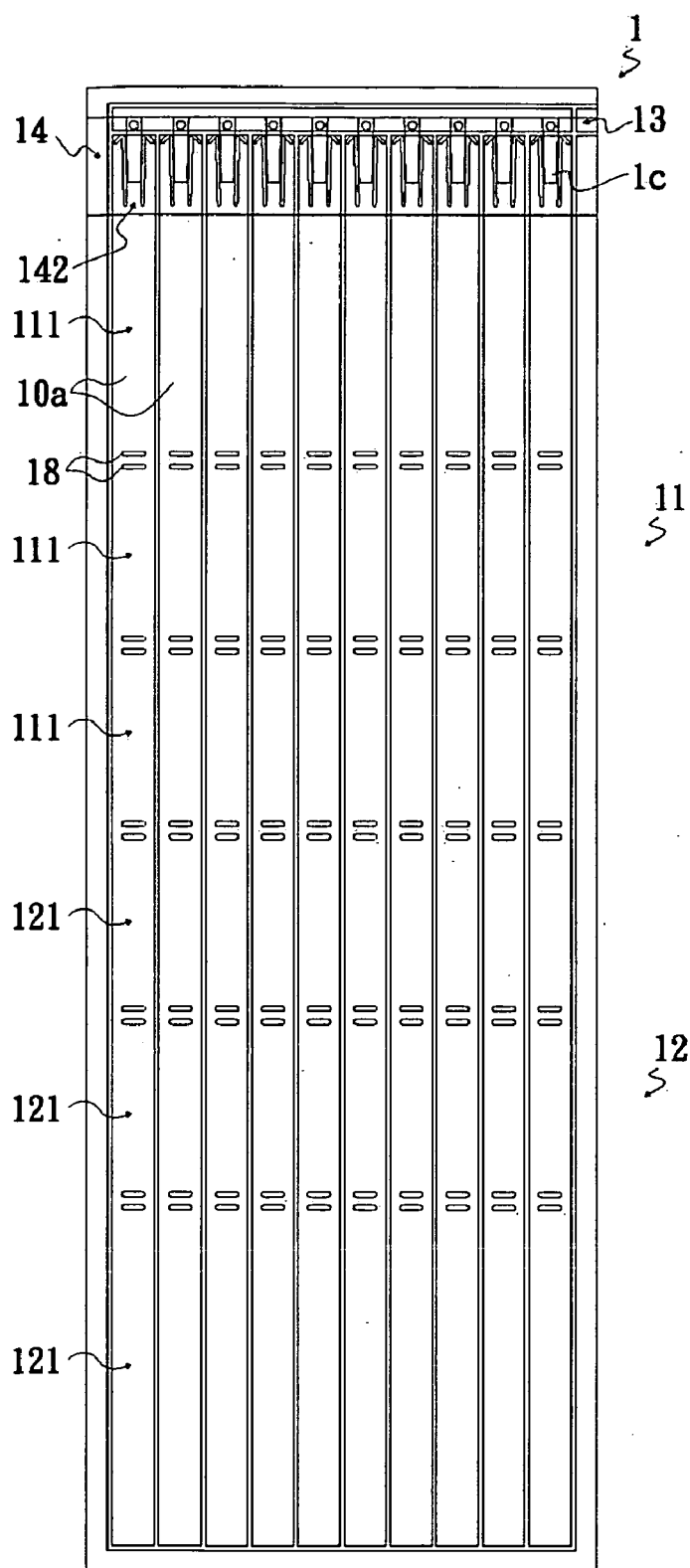


FIG. 3A

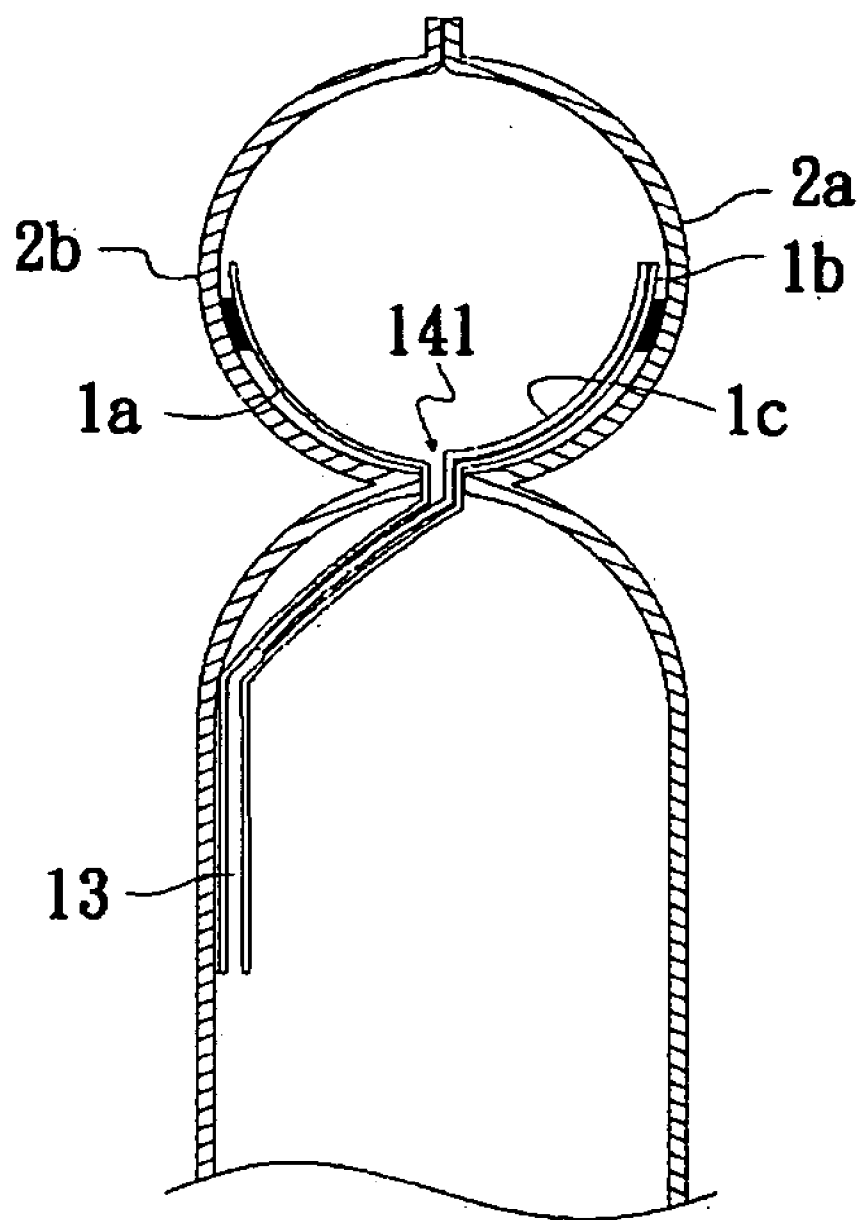


FIG. 3B

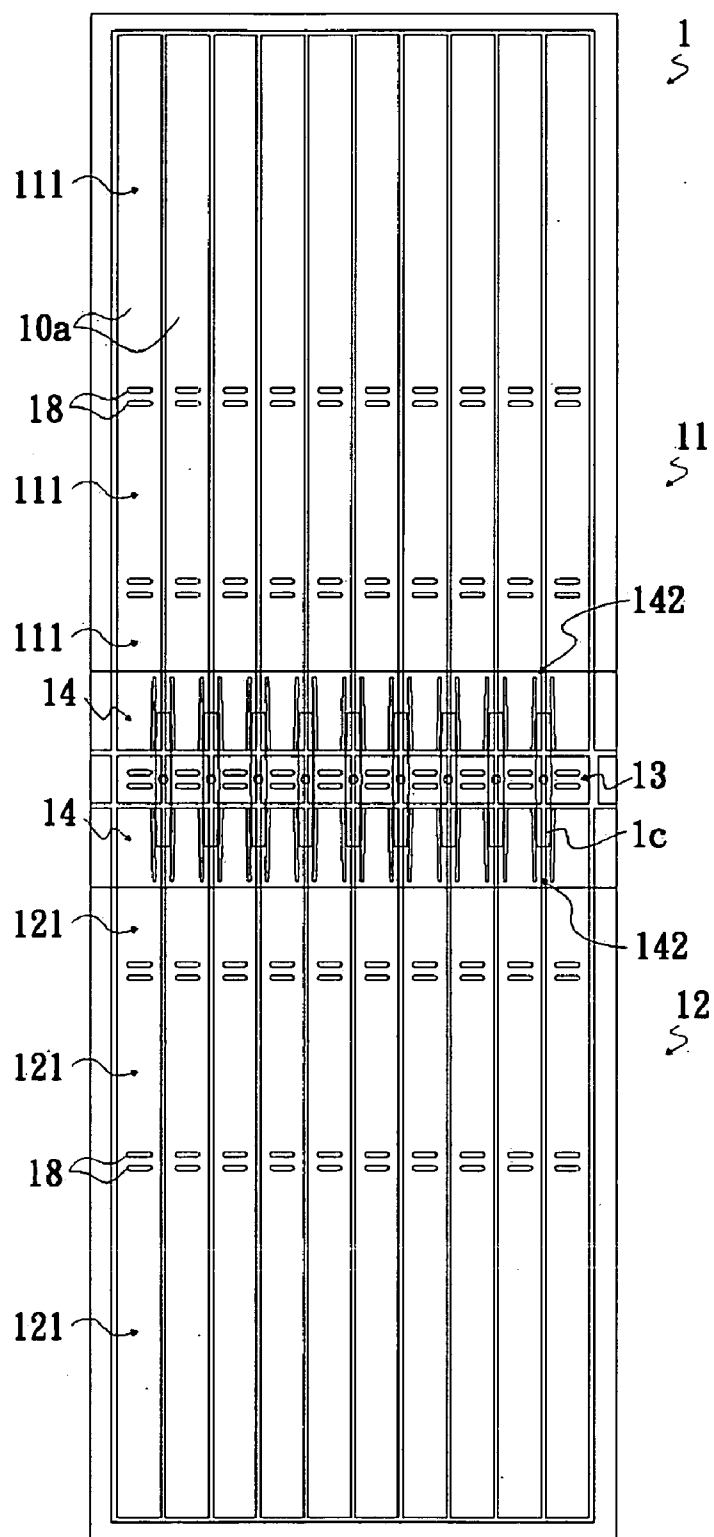


FIG. 4A

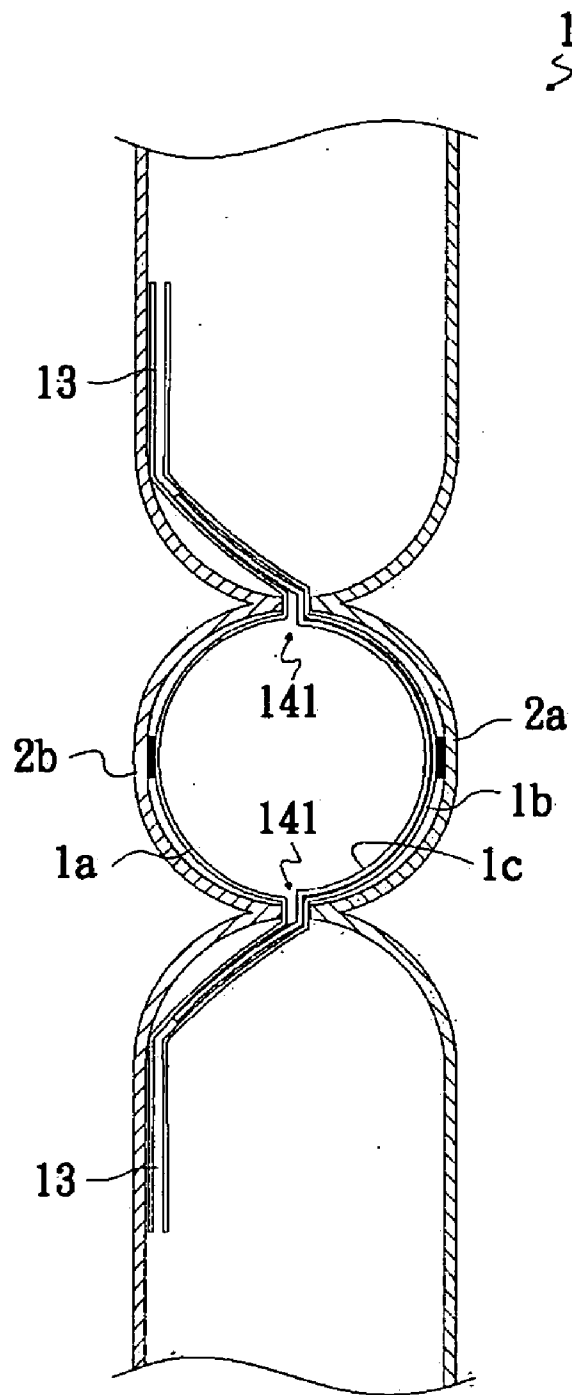


FIG. 4B

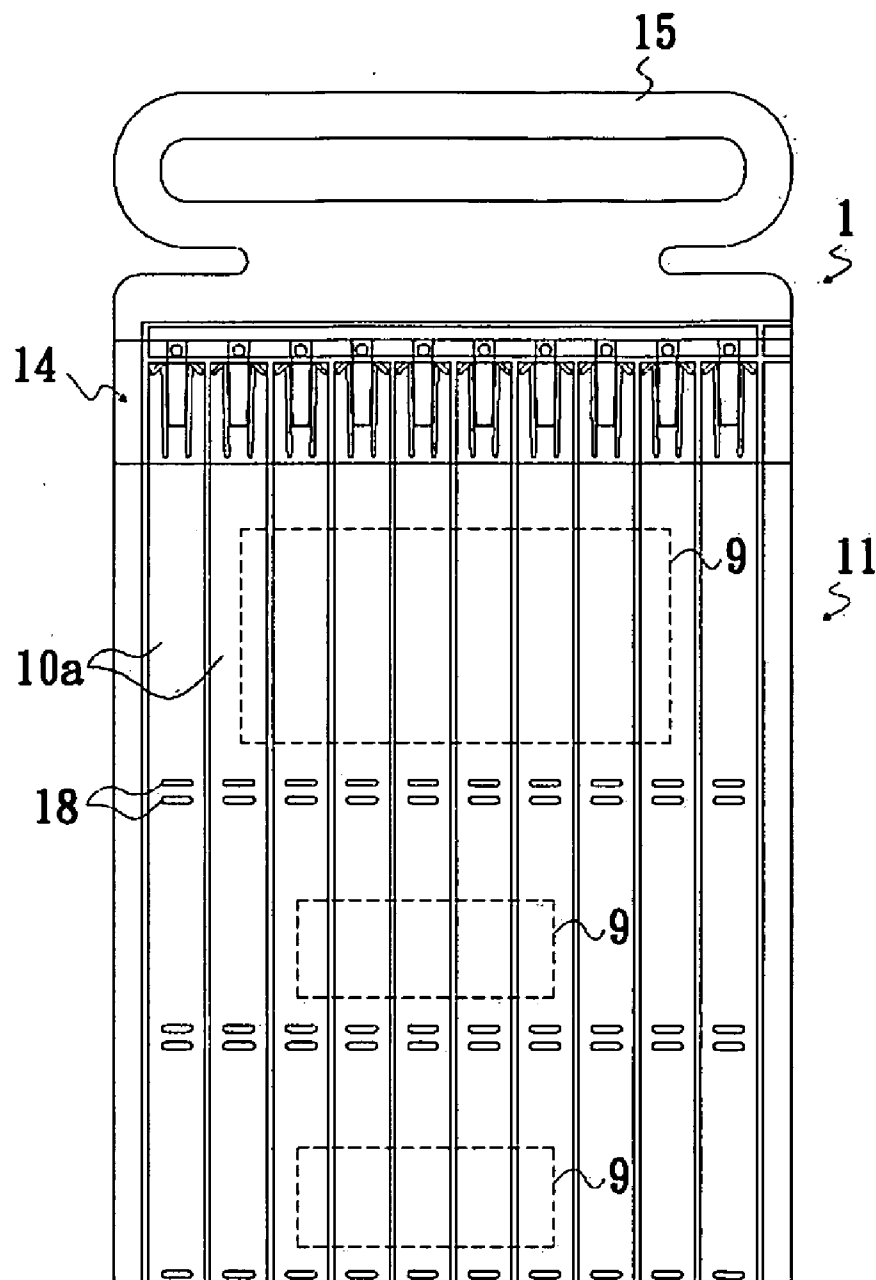


FIG. 5A

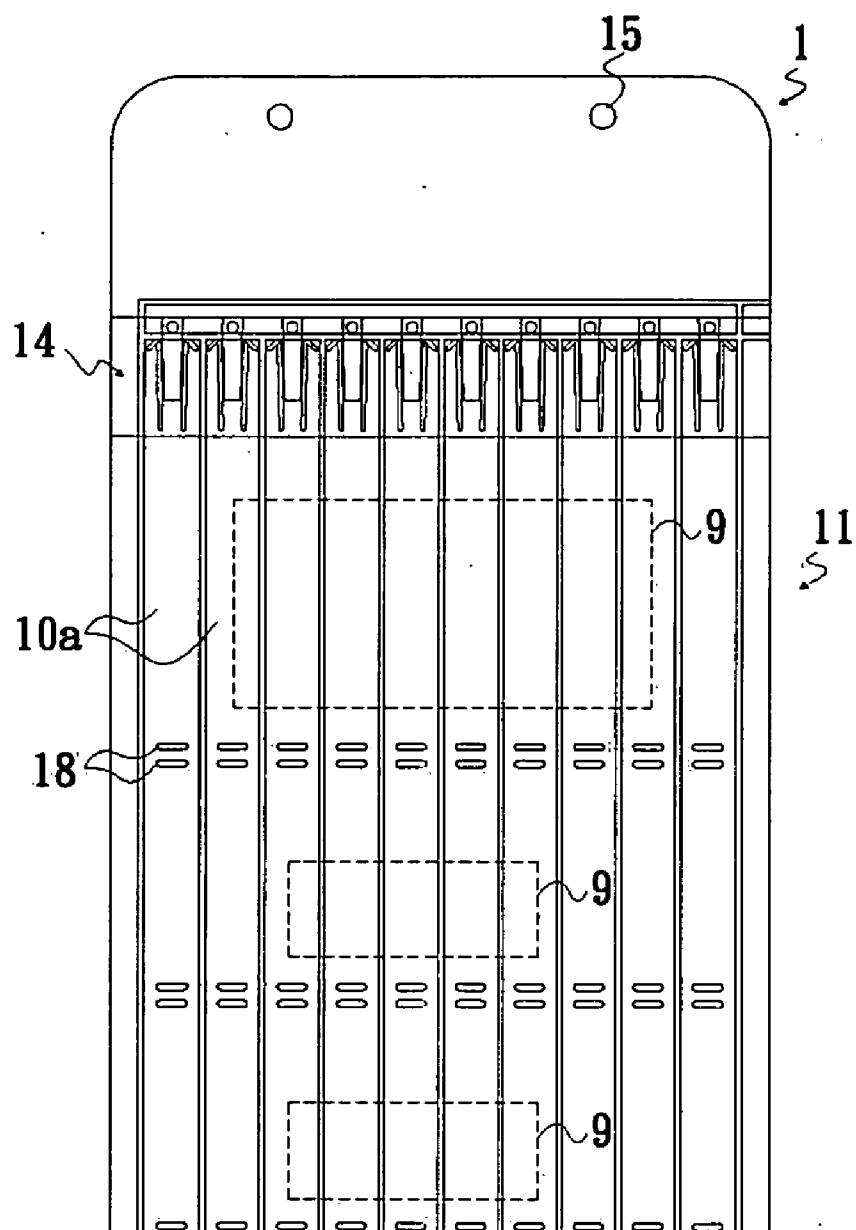


FIG. 5B

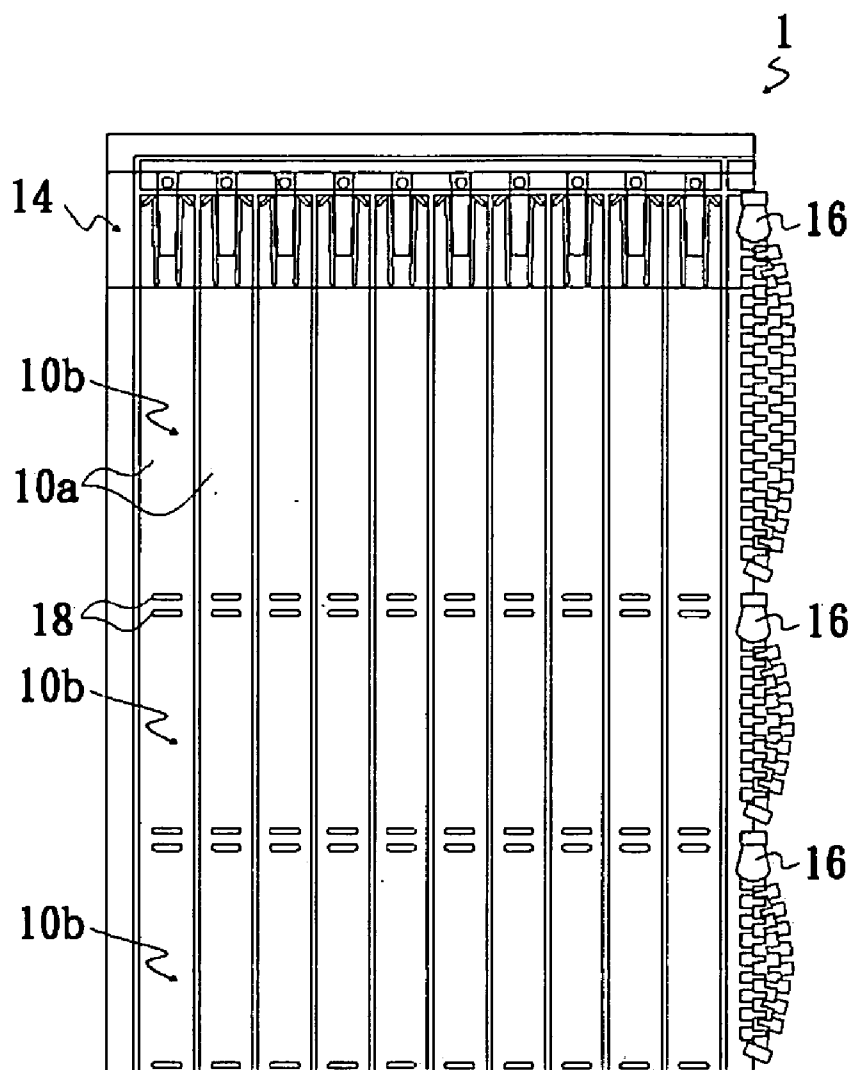


FIG. 6A

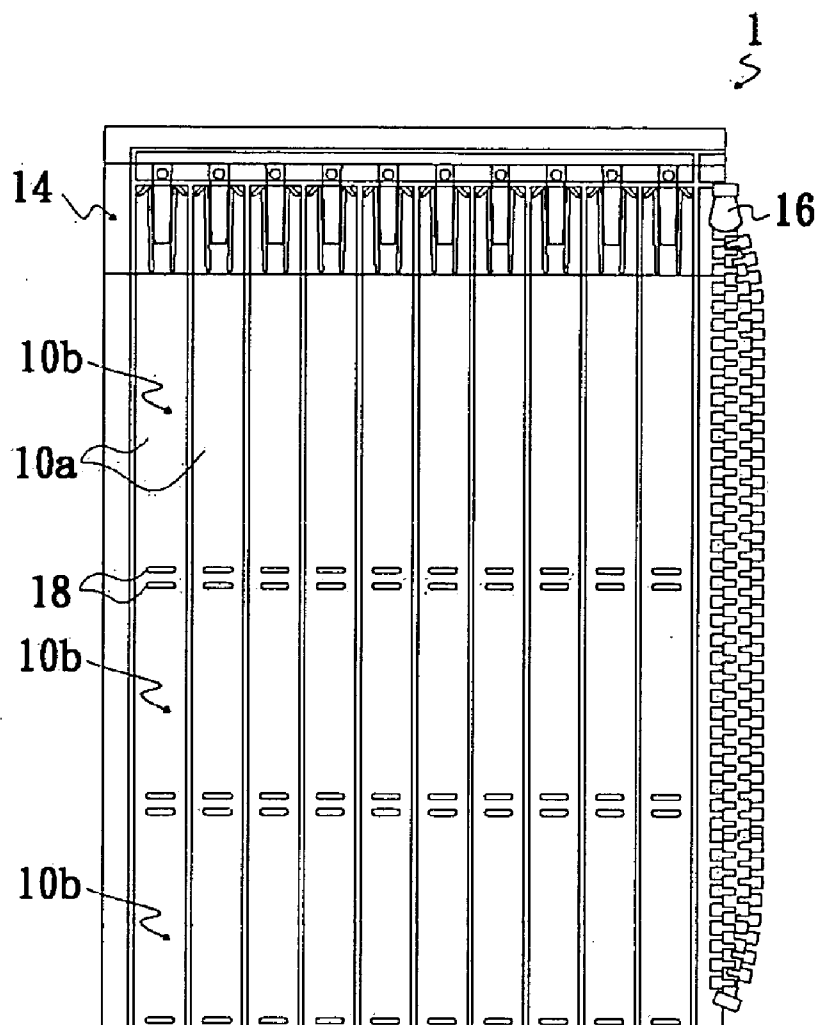


FIG. 6B

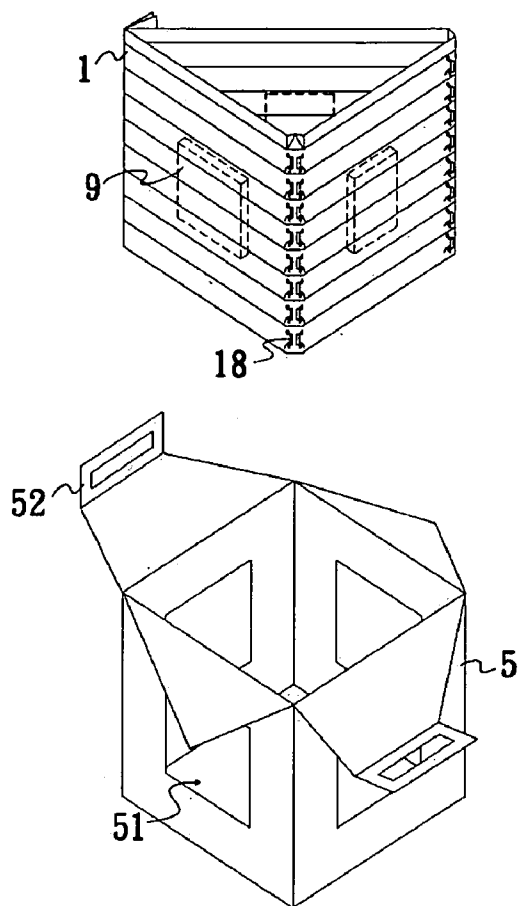


FIG. 7A

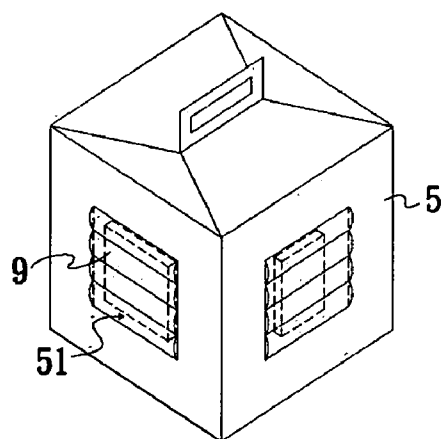


FIG. 7B

BENDABLE MULTI-SECTIONAL CUSHIONING COVER BAG

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This non-provisional application claims priority under 35 U.S.C. § 119(a) on Patent Application No(s). 097100459 filed in Taiwan, R.O.C. on Jan. 4, 2008, the entire contents of which are hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to a cushioning packing cover bag, and more particularly to a bendable multi-sectional cushioning packing cover bag.

BACKGROUND

[0003] Generally, when an article is packed, soft foam or Styron is provided as a cushioning protection for the article. However, foam and Styron cause an environmental protection problem; they are not very ideal cushioning materials considering current attitudes to environmental protection. In addition, the article will be placed in a paper box directly after it is packed using foam or Styron, so as to allow it to be transported conveniently.

[0004] However, a purchaser is unable to see the article directly after it is placed in the paper box; the contents thereof can only be judged from an article pattern printed on an outside of the paper box. This is quite inconvenient, and can cause the purchaser to be unsatisfied with the article after opening the paper box owing to misjudgment of the color or size of the article from the article pattern. Consequently, they will ask for a purchase return or exchange, embarrassing the merchant considerably. Besides, an electronic device such as a cellular phone is processed with a sales promotion with a very low price to attract a purchaser to buy, owing to severe price competition. But if the purchaser finds out the cellular phone he bought is secondhand merchandise, or that the accessories packed inside the box have been replaced with sub-quality products after he opens the paper box, this not only always causes a quarrel between the merchant and the purchaser but also harms the brand image of an electronic device (e.g. cellular phone) manufacturer.

SUMMARY OF THE INVENTION

[0005] To improve cushioning packing and outer box structure, strengthen an article's cushioning protection, enable an article to be seen through an outer box so as to allow a purchaser to view the color or size of the article directly, ensuring a airtight fit of the article by means of a cushioning packing structure to prevent the article from being used or the accessories from being replaced to avoid a consumption quarrel, and to improve the brand image of a product manufacturer, the present invention is proposed.

[0006] To achieve the objects mentioned above, the present invention proposes a bendable multi-sectional cushioning packing cover bag used for packing an article; it includes: a first air cylinder sheet, including a plurality of first cushioning sections; a second air cylinder sheet, communicating with the first cylinder sheet by connecting one end thereof to the first air cylinder sheet, including a plurality of second cushioning sections, the plurality of second cushioning sections corresponding to the plurality of first cushioning sections, three

sides of each second cushioning section being adhered to three sides of the first cushioning section corresponding thereto by means of hot sealing to form a space to accommodate an article, and the first cylinder sheet and the second cylinder sheet being used to guard the article from impact; and

a light reflection sheet, attached onto one side of the first air cylinder sheet close to the second cylinder sheet and used for reflecting light onto the article.

[0007] The present invention also proposes a bendable multi-sectional cushioning packing cover bag used for packing an article; it includes:

a packing box, including at least one window;

a first air cylinder sheet, including a plurality of first cushioning sections;

a second air cylinder sheet, communicating with the first cylinder sheet by connecting one end thereof to the first air cylinder sheet, including a plurality of second cushioning sections, the plurality of second cushioning sections corresponding to the plurality of first cushioning sections, three sides of each second cushioning section being adhered to three sides of the first cushioning section corresponding thereto by means of hot sealing to form a storage space to accept an article, and the first cylinder sheet and the second cylinder sheet being used to guard the article from impact, at least one second cushioning section being lodged in the window to cause the first air cylinder sheet and the second air cylinder sheet to be positioned in the packing box; and

a light reflection sheet, attached onto one side of the first air cylinder sheet close to the second cylinder sheet and used for reflecting light onto the article.

[0008] The first cushioning section and the second cushioning section of the present invention may be made with the same size or a different size thereby accepting different sizes of articles so as to accept conveniently a whole set of articles (e.g. cellular phone and accessories thereof), the first air cylinder and the second air cylinder sheet are used to guard the article from impact to prevent the article from being damaged due to shaking during transportation, and the packaged article is prevented from being used or replaced to effectively avoid a consumer quarrel and further to elevate the brand image of a product manufacturer. Moreover, the second cushioning section may be lodged in a window of a packing box; this not only allows the first air cylinder sheet and the second air cylinder to be positioned in the packing box, but also increases the visual effect of the packing to enable the original inner packing in the packing box to be a part of the outer packing, thereby allowing a user to view the packed article directly and avoid consumer quarrels caused by an error between a printed pattern of the packing box, and the article itself.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The present invention can be more fully understood by reference to the following description and accompanying drawings, in which:

[0010] FIG. 1 is a perspective view, showing a bendable multi-sectional cushioning packing cover bag of a first embodiment according to the present invention;

[0011] FIG. 2 is a schematic view, showing a bendable multi-sectional cushioning packing cover bag of the first embodiment according to the present invention when an article is placed therein;

[0012] FIG. 3A is a plane view, showing a bendable multi-sectional cushioning packing cover bag of the first embodiment according to the present invention;

[0013] FIG. 3B is a partly cross sectional view, showing a bendable multi-sectional cushioning packing cover bag of the first embodiment according to the present invention;

[0014] FIG. 4A is a plane view, showing a bendable multi-sectional cushioning packing cover bag of a second embodiment according to the present invention;

[0015] FIG. 4B is a cross sectional view, showing a bendable multi-sectional cushioning packing cover bag of the second embodiment according to the present invention;

[0016] FIG. 5A is a schematic view, showing a bendable multi-sectional cushioning packing cover bag of a third embodiment according to the present invention;

[0017] FIG. 5B is another schematic view, showing a bendable multi-sectional cushioning packing cover bag of the third embodiment according to the present invention;

[0018] FIG. 6A is a schematic view, showing a bendable multi-sectional cushioning packing cover bag of a fourth embodiment according to the present invention;

[0019] FIG. 6B is another schematic view, showing a bendable multi-sectional cushioning packing cover bag of the fourth embodiment according to the present invention.

[0020] FIG. 7A is a perspective view, showing a bendable multi-sectional cushioning packing cover bag of a fifth embodiment according to the present invention; and

[0021] FIG. 7B is another perspective view, showing a bendable multi-sectional cushioning packing cover bag of the fifth embodiment according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] Please refer to FIGS. 1, 2, 3A and 3B. FIG. 1 is a perspective view, showing a bendable multi-sectional cushioning packing cover bag of a first embodiment according to the present invention. FIG. 2 is a schematic view, showing a bendable multi-sectional cushioning packing cover bag of the first embodiment according to the present invention when an article is placed therein. FIG. 3A is a plane view, showing a bendable multi-sectional cushioning packing cover bag of the first embodiment according to the present invention. FIG. 3B is a partly cross sectional view, showing a bendable multi-sectional cushioning packing cover bag of the first embodiment according to the present invention.

[0023] The bendable multi-sectional cushioning packing cover bag includes an air cylinder sheet 1 and a light reflection sheet 31.

[0024] The air cylinder sheet 1 is a sheet includes a plurality of air cylinders 10a formed by adhering two sheets of outer film 2a and 2b by means of hot sealing after they are stacked together vertically, and can be separated into a first air cylinder sheet 11 and a second air cylinder sheet 12 communicating with each other, in which the first air cylinder sheet 11 is constituted of a plurality of first cushioning sections 111 disposed in series, and the second air cylinder sheet 12 is constituted of a plurality of second cushioning sections 121 disposed in series and one end thereof is connected to the first air cylinder sheet 11.

[0025] Furthermore, the plurality of second cushioning sections 121 corresponds to the plurality of first cushioning sections 111. The sizes and dimensions of the plurality of second cushioning sections 121 may be the same or different, and the size and dimension of each second cushioning section

121 and the size and dimension of the first cushioning section 111 corresponding thereto are the same, and three sides thereof are respectively adhered to each other by means of hot sealing to form a storage space 10b. If the sizes and the dimensions of the plurality of second cushioning sections 121 are the same, the dimension of each storage space 10b is the same; if the sizes and dimensions of the plurality of second cushioning sections 121 are different, the dimension of each storage space 10 then matches the size and dimension of the second cushioning section 121 such that the dimensions of the plurality of storage spaces 10b are different thereby accepting different articles 9. The first air cylinder sheet 11 and the second air cylinder sheet 12 can then be used to guard the articles 9 from impact as the first air cylinder sheet 11 and the second air cylinder sheet 12 are filled with air and expanded.

[0026] The light reflection sheet 31 is attached onto one side face of the first air cylinder sheet 11 close to the second air cylinder sheet 12 and used for reflecting light onto the article 9, in which the light reflection sheet 31 may be made from a light reflecting material.

[0027] The bendable multi-sectional cushioning packing cover bag may further include an air filling passageway 13 and a continuous check valve 14, in which the air filling passageway 13 is positioned at one end of the first air cylinder sheet 11, the continuous check valve 14 is positioned with a plurality of air inlets 141 and air passageways 142 used for communicating the air filling passageway 13 with the air cylinder sheet 11, air in the air filling passageway 13 is filled into each air cylinder 10a via the air inlet 141 and the air passageway 142 to enable the first cylinder sheet 11 and the second air cylinder sheet 12 to be filled with air and expanded. Moreover, the air filling passageway 13 may also be positioned at one end of the second air cylinder sheet 12; the continuous check valve 14 can then connect the air filling passageway 13 with the second air cylinder sheet 12.

[0028] The continuous check valve 14 mentioned above may be formed by adhering two sheets of inner film 1a and 1b by means of hot sealing, in which the two sheets of inner film 1a and 1b is side-attached onto the outer film 2a or 2b. A heat resistant material 1c is spread sequentially at intervals between the two sheets of inner film 1a and 1b, for example, by means of heat resistant resin or ink printing. The two sheets of outer film 2a and 2b are still not adhered to each other to form air inlets even by means of hot sealing. When the air filling passageway 13 is filled with air and expanded, the two sheets of outer film 2a and 2b are pulled apart to open each air inlet 141 to allow air to enter each air cylinder 10a via each air passageway to cause each air cylinder 10a to be filled with air and expanded. Furthermore, two opposite sides of the two sheets of inner film 1a and 1b are aligned with two corresponding sides of the two sheets of outer films 2a and 2b as FIG. 3A shows, and the other two opposite sides of the two sheets of inner film 1a and 1b do not exceed the other two corresponding sides of the two sheets of outer film 2a and 2b, as FIG. 3B shows.

[0029] The internal air pressure of the air cylinder 10a compresses the two sheets of inner film 1a and 1b to attach onto the outer film 2a or 2b (the two sheets of inner film 1a and 1b may also be not side-attached onto the outer film 2a or 2b but may be hung in the air in the air cylinder 10a) after the air cylinder 10a is filled with air and expanded to cover air

passageway **142** to shield the air cylinder **10a** to prevent the air in the air cylinder **10a** leaking out to achieve an airtight effect.

[0030] The bendable multi-sectional cushioning packing cover bag may further include a color sheet **32** attached to a side face of the first air cylinder sheet **11** not attached to the light reflection sheet **31**, where the color of the color sheet **32** may be changed depending on the article **9**, thereby increasing the visual effect. In addition, a plurality of hot sealing points **18** may also be positioned between the two first cushioning sections **111**, between the first cushioning section **111** and the second cushioning section **121**, and between the two second cushioning sections **121**, to allow the plurality of first cushioning sections and the plurality of second cushioning sections to be bent along the plurality of hot sealing points **18**.

[0031] After the article **9** is placed in the storage space **10b**, each second cushioning section **121** and the first cushioning section **111** corresponding thereto are adhered to the opening of the storage space **10b** by means of hot sealing, to cause the storage space **10b** to be shielded, thereby guarding the article **9** from impact. Furthermore, shielding the storage space **10b** by means of hot sealing can prevent the accepted article **9** from being used or replaced, effectively avoiding consumer quarrels and further elevating the brand image of the product manufacturer. In addition, the articles **9** may be stacked together after being packed according to the present invention, so as to allow a user to transport or store them conveniently.

[0032] Please refer to FIGS. **4A** and **4B**. FIG. **4A** is a plane view, showing a bendable multi-sectional cushioning packing cover bag of a second embodiment according to the present invention. FIG. **4B** is a cross sectional view, showing a bendable multi-sectional cushioning packing cover bag of the second embodiment according to the present invention.

[0033] The continuous check valves **14** may be positioned on the first cushioning sections **111**; air is filled into each air cylinder **10a** via the air inlet **141** and the air passageway **142** to cause the first air cylinder sheet **11** and the second air cylinder **12** to be filled with air and expanded, and the internal air pressure of the air cylinder **10a** compresses the two sheets of inner film **1a** and **1b** against the outer film **2a** or **2b** (the two sheets of inner film **1a** and **1b** may also be left unattached to the outer film **2a** or **2b**, and may be hung in the air in the air cylinder **10a**), after the air cylinder **10a** is filled with air and expanded to cover air passageway **142** to shield the air cylinder **10a**. Furthermore, the continuous check valve **14** may also be positioned on the second cushioning sections **121**.

[0034] Please refer to FIGS. **5A** and **5B**. FIG. **5A** is a schematic view, showing a bendable multi-sectional cushioning packing cover bag of a third embodiment according to the present invention. FIG. **5B** is another schematic view, showing a bendable multi-sectional cushioning packing cover bag of the third embodiment according to the present invention.

[0035] The bendable multi-sectional cushioning packing cover bag may further include a positioning element **15** placed on one end of one of the first air cylinder sheet **11** and the second air cylinder sheet **12**, in which the positioning element **15** may be a handle as shown in FIG. **5A**, thereby allowing a user to carry the bag more conveniently, and the positioning element **15** may also be a hole as shown in FIG. **5B** thereby allowing the user to hang the air cylinder sheet **1** conveniently to store the articles **9** more easily.

[0036] Please refer to FIGS. **6A** and **6B**. FIG. **6A** is a schematic view, showing a bendable multi-sectional cushion-

ing packing cover bag of a fourth embodiment according to the present invention. FIG. **6B** is another schematic view, showing a bendable multi-sectional cushioning packing cover bag of the fourth embodiment according to the present invention.

[0037] The bendable multi-sectional cushioning packing cover bag may further include an open close element **16** positioned around the top rim of the opening of the storage space and used for separating the storage space **10b** from the outside. A user may open or close the storage space **10b** repeatedly with the open close element **16**, rendering it a reusable item, where each storage space **10b** may have a single open close element **16** as FIG. **6A** shows, or the plurality of storage spaces **10b** may share the same open close element **16** as FIG. **6B** shows.

[0038] Please FIGS. **7A** and **7B**. FIG. **7A** is a perspective view, showing a bendable multi-sectional cushioning packing cover bag of a fifth embodiment according to the present invention. FIG. **7B** is another perspective view, showing a bendable multi-sectional cushioning packing cover bag of the fifth embodiment according to the present invention.

[0039] The bendable multi-sectional cushioning packing cover bag may further include a packing box **5** equipped with a hollow window **51**, where the outer surface of the packing box **5** is printed with a printing pattern of the article **9** or may be printed with a light reflecting face. Moreover, the shape and size of the window **5** may be changed depending on the article **9**. In addition, a handle **52** may also be placed on the packing box **5** to allow a user to carry the packing box **5** more conveniently.

[0040] The second cushioning section **121** may then be lodged in the window **5** of the packing box **5** after the article **9** is placed in the storage space **10b** so as to allow the first air cylinder sheet **11** and the second air cylinder sheet **12** to be placed in the packing box **5**; this allows a user to view directly the article **9** placed in the storage space **10b**, preventing an error of judgment taking place because of any difference between the item and the printed pattern of the packing box **5** avoiding a consumer quarrel. In addition, the original inner packing in the packing box **5** becomes a part of an outer packing, and in the meantime the visual effect of the article packing can be improved to elevate the consumer's purchasing desire by collocating the printing on the outer surface of the packing box **5** and reflecting light onto the article using the light reflection sheet **31**.

[0041] Although the formation of the continuous check valve **14** mentioned above is described as the two sheets inner film **1a** and **1b** adhering to each other by means of hot sealing as an example, it is not limited to this. It may be that only one sheet of inner film **1b** is placed between the two sheets of outer film **2a** and **2b**, and a heat resistant material **1c** is spread at intervals between the inner film **1b** and the outer film **2b**, and the inner film **1b** and the outer film **2b** are still not adhered to each other to form the continuous check valve **14** even by hot sealing.

[0042] Additional advantages and modifications will readily occur to those skilled in the art. Therefore, the invention in its broader aspects is not limited to the specific details and representative embodiments shown and described herein. Accordingly, various modifications may be made without departing from the spirit or scope of the general inventive concept as defined by the appended claims and their equivalents.

What is claimed is:

1. A bendable multi-sectional cushioning packing cover bag, used for packing an article and comprising:

a first air cylinder sheet, comprising a plurality of first cushioning sections;

a second air cylinder sheet, communicating with said first cylinder sheet by connecting one end thereof to said first air cylinder sheet, comprising a plurality of second cushioning sections, said plurality of second cushioning sections corresponding to said first cushioning sections, three sides of each second cushioning section being adhered to three sides of said first cushioning section corresponding thereto by means of hot sealing to form a storage space used for holding said article, and said first air cylinder sheet and said second air cylinder sheet being used for guarding said article from impact; and

a light reflection sheet, attached onto one side face of said first air cylinder sheet close to said second air cylinder sheet and used for reflecting light onto said article.

2. The bendable multi-sectional cushioning packing cover bag according to claim **1**, further comprising an air filling passageway positioned at one end of one of said first air cylinder sheet and said second air cylinder sheet.

3. The bendable multi-sectional cushioning packing cover bag according to claim **2**, further comprising a continuous check valve comprising a plurality of air inlets used for connecting said air filling passageway with one of said first air cylinder sheet and said second air cylinder sheet to allow air in said air filling passageway to be filled into said first air cylinder sheet and said second air cylinder sheet to cause said first air cylinder sheet and said second air cylinder sheet to be filled with air and expanded.

4. The bendable multi-sectional cushioning packing cover bag according to claim **1**, further comprising a continuous check valve positioned on one of said plurality of first cushioning sections and said plurality of second cushioning sections.

5. The bendable multi-sectional cushioning packing cover bag according to claim **1**, further comprising an open close element placed in the opening of said storage space and used for shielding said storage space.

6. The bendable multi-sectional cushioning packing cover bag according to claim **1**, further comprising a positioning element positioned on one end of one of said first air cylinder sheet and said second air cylinder sheet.

7. The bendable multi-sectional cushioning packing cover bag according to claim **6**, wherein said positioning element is either one of a handle and a hole.

8. The bendable multi-sectional cushioning packing cover bag according to claim **1**, further comprising a color sheet attached onto a side face of said first air cylinder sheet not attached to said light reflection sheet.

9. The bendable multi-sectional cushioning packing cover bag according to claim **1**, further comprising a plurality of hot sealing points positioned between said plurality of first cushioning sections and said plurality of second cushioning sections and allowing said plurality of first cushioning sections and said plurality of second cushioning sections to be bended along said hot sealing points.

10. The bendable multi-sectional cushioning packing cover bag according to claim **1**, wherein an opening of said storage space of said second cushioning sections and said first cushioning sections is adhered by means of hot sealing to seal said storage space.

11. A bendable multi-sectional cushioning packing cover bag, used for packing an article and comprising:

a packing box, comprising a window;

a first air cylinder sheet, comprising a plurality of first cushioning sections;

a second air cylinder sheet, communicating with said first cylinder sheet by connecting one end thereof to said first air cylinder sheet, comprising a plurality of second cushioning sections, said second air cylinder sheet comprising a plurality of second cushioning sections, said plurality of second cushioning sections being corresponding to said first cushioning sections, three sides of each second cushioning section being adhered to three sides of said first cushioning section corresponding thereto by means of hot sealing to form a storage space used for holding said article, and said first air cylinder sheet and said second air cylinder sheet being used for guarding said article from impact, at least one said second cushioning section being lodged in said window to allow said first air cylinder sheet and said second air cylinder sheet to be placed in said packing box; and

a light reflection sheet, attached onto one side face of said first air cylinder sheet close to said second air cylinder sheet and used for reflecting light onto said article.

12. The bendable multi-sectional cushioning packing cover bag according to claim **11**, further comprising an air filling passageway positioned at one end of one of said first air cylinder sheet and said second air cylinder sheet.

13. The bendable multi-sectional cushioning packing cover bag according to claim **12**, further comprising a continuous check valve comprising a plurality of air inlets used for connecting said air filling passageway with one of said first air cylinder sheet and said second air cylinder sheet to allow air in said air filling passageway to be filled into said first air cylinder sheet and said second air cylinder sheet to cause said first air cylinder sheet and said second air cylinder sheet to be filled with air and expanded.

14. The bendable multi-sectional cushioning packing cover bag according to claim **11**, further comprising a continuous check valve positioned on one of said plurality of first cushioning sections and said plurality of second cushioning sections.

15. The bendable multi-sectional cushioning packing cover bag according to claim **11**, further comprising an open close element positioned on an opening of said storage space and used for shielding said storage space.

16. The bendable multi-sectional cushioning packing cover bag according to claim **11**, further comprising a positioning element positioned on one end of one of said first air cylinder sheet and said second air cylinder sheet.

17. The bendable multi-sectional cushioning packing cover bag according to claim **16**, wherein said positioning element is one of a handle and a hole.

18. The bendable multi-sectional cushioning packing cover bag according to claim **11**, further comprising a color sheet attached onto a side face of said first air cylinder sheet not attached to said light reflection sheet.

19. The bendable multi-sectional cushioning packing cover bag according to claim **11**, further comprising a plurality of hot sealing points positioned between said plurality of first cushioning sections and said plurality of second cushioning sections.

ioning sections and allowing said plurality of first cushioning sections and said second plurality of second cushioning sections to be bended along said hot sealing points.

20. The bendable multi-sectional cushioning packing cover bag according to claim 11, wherein the opening of said

storage space of said second cushioning sections and said first cushioning sections is adhered by means of hot sealing to seal said storage space.

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