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(54) **FOLD-OVER SEALING PACKAGING BAG**

(57) Disclosed is a foldable and sealable packaging bag, including one piece of packaging bag sheet, which divided into a first bag sheet and a second bag sheet. Both sides of the first and second bag sheet are provided with connecting ends, and each connecting end of the first bag sheet is tightly connected to each corresponding connecting end of the second bag sheet to form a containing cavity. The first bag sheet and the second bag sheet are formed by folding one piece of material sheet. The first bag sheet and the second bag sheets are connected hermetically to form a containing cavity that can accommodate various items, and the opening is sealed by a sealable part. The structure of the packaging bag in this embodiment is simple, convenient for production, and can reduces the waste of raw material sheet.

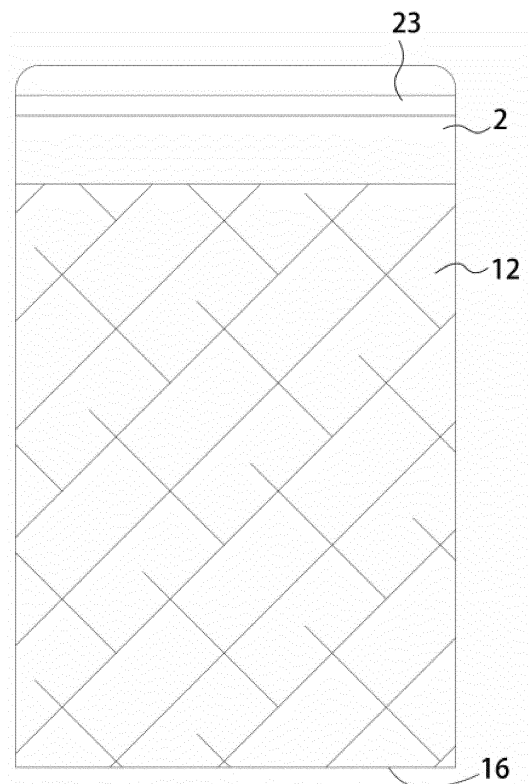


Fig.1

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Description

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the benefit of Chinese Patent Application No.202222164939.4 filed on Aug. 17, 2022, the contents of which are incorporated herein by reference in their entirety.

TECHNICAL FIELD

[0002] This present application relates to the technical field of packaging bag products, in particular relates to a foldable and sealable packaging bag.

BACKGROUND

[0003] The use of domestic express packaging bags in China grows with each passing day, which invisibly increases the cost of express shipping fees and also increases the workload of couriers in carrying express bags. The existing packaging bags are relatively complex in structure, and generally requires multiple components of packaging bag to assemble a complete packaging bag which is difficult. Therefore, it involves multiple processes, and is rare to form a complete packaging bag on a single piece of packaging material sheet.

SUMMARY

[0004] In order to overcome the shortcomings of existing technical solutions, the embodiment of the present application provides a foldable and sealable packaging bag.

[0005] The technical solution adopted in the present application to solve its technical problem is: a foldable and sealable packaging bag, wherein the foldable and sealable packaging bag includes:

a packaging bag sheet, the packaging bag sheet including a first bag sheet and a second bag sheet, both sides of the first bag sheet and both sides of the second bag sheet being provided with connecting ends, and each connecting end of the first bag sheet being tightly connected to each corresponding connecting end of the second bag sheet so as to form a containing cavity for loading items;

a first end of the first bag sheet being connected to a first end of the second bag sheet to form a first foldable part;

a sealable part, one end of the sealable part being connected to a second end of the first bag sheet to form a second foldable part, and the sealable part being connected to the surface of the second bag sheet to seal the containing cavity; or

one end of the sealable part being connected to a second end of the second bag sheet, and the sealable part being connected to the surface of the first bag sheet to seal the containing cavity.

[0006] As a preferred technical solution in the present application, both the connecting ends of the first bag sheet and the connecting ends of the second bag sheet are provided with adhesive, and each connecting end of the first bag sheet is tightly connected to each corresponding connecting end of the second bag sheet through the adhesive.

[0007] As a preferred technical solution in the present application, the first foldable part includes a first folding line which extends along both sides of the first bag sheet or both sides of the second bag sheet; the first bag sheet and the second bag sheet are bounded by the first folding line and flipped over each other so that each connecting end of the first bag sheet is connected tightly to each corresponding connecting end of the second bag sheet.

[0008] As a preferred technical solution in the present application, the first foldable part includes a middle bag sheet, the middle bag sheet including a first sheet block and a second sheet block, a first end of the first sheet block being connected to a first end of the second sheet block to form a second folding line which extends along both sides of the first sheet block or both sides of the second sheet block;

the first sheet block and the second sheet block are bounded by the second folding line and flipped over each other so that the surface of the first sheet block is stacked and connected to the opposite surface of the second sheet block.

[0009] As a preferred technical solution in the present application, a second end of the first sheet block is connected to the first end of the first bag sheet to form a third folding line, and a second end of the second sheet block is connected to the first end of the second bag sheet so as to form a fourth folding line.

[0010] As a preferred technical solution in the present application, each of two sides of the middle bag sheet is provided with a cut, the inner side of the cut being connected to the second folding line.

[0011] As a preferred technical solution in the present application, the second foldable part includes a fifth folding line which extends along both sides of the first bag sheet or both sides of the second bag sheet; the sealable part is bounded by the fifth folding line and flipped over to stack and connect the sealable part onto the first bag sheet or the second bag sheet.

[0012] As a preferred technical solution in the present application, the sealable part is provided with a connecting structure which extending along both sides of the sealable part.

[0013] Compared with the existing technology, the beneficial effects of the present application are as follows:

A first bag sheet and a second bag sheet are formed by folding one piece of raw material sheet. The first bag sheet and the second bag sheet are connected hermetically to form a containing cavity that can accommodate various items, documents, or the like, and the opening is sealed by the sealable part. Unlike existing packaging bags, the structure of the packaging bag provided by this embodiment is simple, convenient for production, and can reduce the waste of raw material sheet.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] In order to more clearly illustrate the embodiments of the present application, the drawings used in the embodiments will be briefly described below. Obviously, the drawings in the following description are merely some embodiments of the present application, and other drawings may be obtained by those skilled in the art without any creative work.

FIG. 1 is an overall structural diagram according to an embodiment of the present application;

FIG. 2 is a structural diagram illustrating the first bag sheet and the second bag sheet before being folded according to an embodiment of the present application; and

FIG. 3 is a sectional view of the first bag sheet and the second bag sheet according to an embodiment of the present application.

Reference numerals in the drawings:

[0015] 1. packaging bag sheet; 11. first bag sheet; 12. second bag sheet; 13. connecting ends; 14. first foldable part; 15. first folding line; 16. middle bag sheet; 161. first sheet block; 162. second sheet block; 163. second folding line; 164. third folding line; 165. fourth folding line; 166. cuts; 171. containing cavity; 2. sealable part; 21. second foldable part; 22. fifth folding line; 23. connecting structure.

DETAILED DESCRIPTION

[0016] The technical solutions in the embodiments of the present application will be clearly and completely described below with reference to the accompanying drawings of the embodiments of the application. It is apparent that the embodiments to be described below are merely a part of the embodiments of the present application, and not all of them. All other embodiments obtained by those skilled in the art based on the embodiments of the present application without creative efforts are within the scope of the present application.

[0017] It should be understood that, when used in this specification and the appended claims, the terms "include" and "comprise" indicate the presence of the de-

scribed features, integers, steps, operations, elements and/or components, but do not preclude the presence or addition of a plurality of other features, integers, steps, operations, elements, components, and/or collections thereof.

[0018] It should also be understood that, the terms used in the specification of the present application are only for descriptive purpose and are not intended to limit the present application. As used in the embodiment of the present application and in the appended claims, the singular forms "a", "an" and "the" are intended to include the plural forms unless the context clearly indicate otherwise.

[0019] It should be further understood that the term "and/or" used in the specification of the present application and the appended claims refers to any combination and all possible appended claims refers to any combination and all possible combination of one or more the associated items listed, and includes these combinations.

[0020] The present application provides a foldable and sealable packaging bag, forming a first bag sheet 11 and a second bag sheet 12 by folding a single raw material sheet. The first bag sheet 11 and the second bag sheets 12 are connected hermetically to form a containing cavity 17 that can accommodate various items, documents, or the like, and the opening is sealed by the sealable part 2. Unlike existing packaging bags, the structure of the packaging bag provided by this embodiment is simple, convenient for production, and can reduce the waste of raw material sheet. As shown in FIG. 1 to FIG. 3, the specific structure of the foldable and sealable packaging bag in this embodiment, including:

A packaging bag sheet 1, including a first bag sheet 11 and a second bag sheet 12, both sides of the first bag sheet 11 and both sides of the second bag sheet 12 being provided with connecting ends. Specifically, the area occupied by the connecting ends 13 on both sides of the first bag sheet 11 is the same as the connecting ends 13 on both sides of the second bag sheet 12, so that after each connecting end 13 of the first bag sheet 11 being aligned with and approached each connecting end 13 of the corresponding second bag sheet 12, they will be tightly connected. Since the first bag sheet 11 and the second bag sheet 12 only being fixedly connected to each other on the connecting ends 13, rather than the entire first bag sheet 11 and the entire first bag sheet 12 being fixed connected to, when loading items between the first bag sheet 11 and the second bag sheet 12, the first bag sheet 11 or the second bag sheet 12 can be expanded to accommodate a portion of each other to form a containing cavity 17. Even though the first bag sheet 11 and the second bag sheet 12 are only fixedly connected each other on the connecting ends 13, it can also prevent items from falling out of the packaging bag from both sides of the packaging bag.

[0021] A first end of the first bag sheet 11 is connected to a first end of the second bag sheet 12 to form a first foldable part 14, and the raw material sheet is folded

around the first foldable part 14 so as to form the first bag sheet 11 and second bag sheets 12. Meanwhile, the first foldable part 14 can also hold the items on the bottom, preventing the items from falling out of the bottom end of the containing cavity 17.

[0022] In this embodiment, the length of each side of the first bag sheet 11 is consistent with the length of each side of the second bag sheet 12, ensuring the first bag sheet 11 or the second bag sheet 12 will not protrude a part outwards after folding and fitting together.

[0023] A sealable part 2, since the opening between the connecting ends 13 of the first bag sheet 11 and the connecting ends 13 of the second bag sheet 12 is connected to the containing cavity 17, after loading items into the containing cavity 17, the opening is sealed by the sealable part 2 in order to preventing items from falling out of the opening, so as to seal and accommodate the items in the containing cavity 17.

[0024] In this embodiment, one end of the sealable part 2 is connected to a second end of the first bag sheet 11 to form a second foldable part 21, and the sealable part 2 is folded around the second foldable part 21. After the sealable part 2 is tightly connected to the surface of the second bag sheet 12, the containing cavity 17 is sealed. The second foldable part 21 is tightly connected to the second end of the second bag sheet 12, so that the opening is sealed, and the items will not fall out from the opening.

[0025] In another embodiment, one end of the sealable part 2 is connected to a second end of the second bag sheet 12 to form a second foldable part 21. After the sealable part 2 is connected hermetically to the surface of the first bag sheet 11, the containing cavity 17 is sealed. Meanwhile, the second foldable part 21 is tightly connected to the second end of the first bag sheet 11, so as to seal the opening and the item will not fall out from the opening.

[0026] The connecting ends 13 of the first bag sheet 11 and the connecting ends 13 of the second bag sheet 12 are both provided with adhesive. Before the first bag sheet 11 and the second bag sheet 12 are folded, adhesive can be directly applied to the connecting end 13 of the first bag sheet 11 and the connecting end 13 of the second bag sheet 12. After the connecting end 13 of the first bag sheet 11 is stacked and connected to the connecting end 13 of the second bag sheet 12, each connecting end 13 of the first bag sheet 11 is tightly connected to each corresponding connecting end 13 of the second bag sheet 12 through adhesive. By heating the position of the connecting end 13, the adhesive on two connecting ends 13 is heated and adheres to each other. After cooling, the connecting end 13 of the first bag sheet 11 and the connecting end 13 of the second bag sheet 12 will solidify together.

[0027] The first foldable part 14 includes a first folding line 15, which extends along both sides of the first bag sheet 11 or both sides of the second bag sheet 12. The raw material sheet is divided into the first bag sheet 11

and the second bag sheet 12 through the first folding line 15. The first bag sheet 11 and the second bag sheet 12 are bounded by the first folding line 15 and flip over each other until each connecting end 13 of the first bag sheet 11 is tightly connected to each corresponding connecting end 13 of the second bag sheet 12. Meanwhile, the surrounding sides of the containing cavity 17 are being hermetically adhered to, and items can be directly placed into the containing cavity 17.

[0028] The first foldable part 14 includes a middle bag sheet 16, which includes a first sheet block 161 and a second sheet block 162. The first sheet block 161 and the second sheet block 162 are connected to form a whole, and a first end of the first sheet block 161 is connected to a first end of the second sheet block 162 so as to form a second folding line 163. The second folding line 15 is specifically located in the middle of the middle bag sheet 16. Therefore, the first sheet block 161 and the second sheet block 162 are flipped around the second folding line 163 and folded to be completely stacked onto each other, so that the situation that the first sheet block 161 protrude a part and is not being stacked by the second sheet block will not happen.

[0029] The second folding line 163 extends along both sides of the first sheet block 161 or both sides of the second sheet block 162. The first sheet block 161 and the second sheet block 162 are bounded by the second folding line 163 and flip over each other so as to stack and connect the surface of the first sheet block 161 to the opposite surface of the second sheet block 162. When the first sheet block 161 is stacked and connected to the second sheet block 162, and combined with the first bag sheet 11 and the second bag sheet 12 being stacked and connected at the same time, the packaging bag becomes a paper shape, so as to reduce the space occupied by paper packaging bag when not in use, and it will not reduce the storage space of the containing cavity 17.

[0030] A second end of the first sheet block 161 is connected to the first end of the first bag sheet 11 to form a third folding line 164. After the first sheet block 161 and the second sheet block 162 are folded through the second folding line 163, the second end of the first sheet block 161 and the first end of the first bag sheet 11 are folded and stacked onto each other through the third folding line 164. A second end of the second sheet block 162 is connected to the first end of the second bag sheet 12 to form a fourth folding line 165, then the second end of the second sheet block 162 and the first end of the second bag sheet 12 are folded and stacked onto each other through the fourth fold line 165, and combined with folding the entire middle bag sheet 16, so as to form a paper shape with the first bag sheet 11, the second bag sheet 12, and the middle bag sheet 16. When loading items into the containing cavity 17, the folded middle bag sheet 16 is expanded so that the first sheet block 161 and the second sheet block 162 will not be stacked and connected to each other, so as to increase the space for contain-

ing cavity 17 to have more items to be loaded.

[0031] Cuts 166 are provided on both sides of the middle bag sheet 16, and the inner side of the cuts 166 is connected to the second folding line 163, so that when the first sheet block 161 and the second sheet block 162 are folded, one corner of the first sheet block 161 and one corner of the opposite end of the second sheet block 162 can be completely adhered to each other through adhesive.

[0032] The second foldable part 21 includes a fifth folding line 22, which extends along both sides of the first bag sheet 11 or both sides of the second bag sheet 12. The sealable part 2 is bounded by the fifth folding line 22 and flipped to stack the sealable part 2 to the first bag sheet 11 or the second bag sheet 12. For example, when the sealable part 2 is set at the second end of the first bag sheet 11 is stacked onto the second bag sheet 12, the fifth folding line 22 is opposite to the second end of the second bag sheet 12, tightly stacking the second end of the second bag sheet 12 with the sealable part 2, so as to seal the opening.

[0033] The sealable part 2 is provided with a connection structure 23, which is double-sided adhesive as the connection structure 23 in this embodiment. The connection structure 23 extends along both sides of the sealable part 2, and a first side of the connection structure 23 is adhered to the sealable part 2. After tearing off a second side of the connection structure 23, it can directly adhere to the first bag sheet 11 or the second bag sheet 12, so as to seal the opening.

[0034] In addition, the connecting structure 23 can also be a lock catch or the like.

[0035] A first bag sheet 11 and a second bag sheet 12 are formed by folding one piece of raw material sheet. The first bag sheet 11 and the second bag sheets 12 are connected hermetically to form a containing cavity 17 that can accommodate various items, documents, or the like, and the opening is sealed by the sealable part 2. Unlike existing packaging bags, the structure of the packaging bag provided by this embodiment is simple, convenient for production, and can reduce the waste of raw material sheet.

[0036] The above descriptions are merely the detailed embodiments of the present application, but the scope of protection of the present application is not limited thereto. Various equivalent modifications or substitutions may be made by those skilled in the art on the basis of the above-mentioned embodiments of the present application. These modifications or substitutions shall fall within the scope of protection of the present application. Therefore, the scope of protection of the present application is defined by the appended claims.

Claims

1. A foldable and sealable packaging bag, wherein the foldable and sealable packaging bag comprises:

a packaging bag sheet, the packaging bag sheet comprising a first bag sheet and a second bag sheet, both sides of the first bag sheet and both sides of the second bag sheet being provided with connecting ends, and each connecting end of the first bag sheet being tightly connected to each corresponding connecting end of the second bag sheet so as to form a containing cavity for loading items;

a first end of the first bag sheet being connected to a first end of the second bag sheet to form a first foldable part;

a sealable part, one end of the sealable part being connected to a second end of the first bag sheet to form a second foldable part, and the sealable part being connected to the surface of the second bag sheet to seal the containing cavity; or

one end of the sealable part being connected to a second end of the second bag sheet, and the sealable part being connected to the surface of the first bag sheet to seal the containing cavity.

2. The foldable and sealable packaging bag according to claim 1, wherein: both the connecting ends of the first bag sheet and the connecting ends of the second bag sheet are provided with adhesive, and each connecting end of the first bag sheet is tightly connected to each corresponding connecting end of the second bag sheet through the adhesive.

3. The foldable and sealable packaging bag according to claim 1, wherein: the first foldable part comprises a first folding line which extends along both sides of the first bag sheet or both sides of the second bag sheet; the first bag sheet and the second bag sheet are bounded by the first folding line and flipped over each other so that each connecting end of the first bag sheet is connected tightly to each corresponding connecting end of the second bag sheet.

4. The foldable and sealable packaging bag according to claim 1, wherein: the first foldable part comprises a middle bag sheet, the middle bag sheet comprising a first sheet block and a second sheet block, a first end of the first sheet block being connected to a first end of the second sheet block to form a second folding line which extends along both sides of the first sheet block or both sides of the second sheet block; the first sheet block and the second sheet block are bounded by the second folding line and flipped over each other so that the surface of the first sheet block is stacked and connected to the opposite surface of the second sheet block.

5. The foldable and sealable packaging bag according to claim 4, wherein: a second end of the first sheet

block is connected to the first end of the first bag sheet to form a third folding line, and a second end of the second sheet block is connected to the first end of the second bag sheet so as to form a fourth folding line.

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6. The foldable and sealable packaging bag according to claim 4, wherein: each of two sides of the middle bag sheet is provided with a cut, the inner side of the cut being connected to the second folding line.
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7. The foldable and sealable packaging bag according to claim 1, wherein: the second foldable part comprises a fifth folding line which extends along both sides of the first bag sheet or both sides of the second bag sheet;
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- the sealable part is bounded by the fifth folding line and flipped over to stack and connect the sealable part onto the first bag sheet or the second bag sheet.
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8. The foldable and sealable packaging bag according to claim 1, wherein: the sealable part is provided with a connecting structure which extending along both sides of the sealable part.
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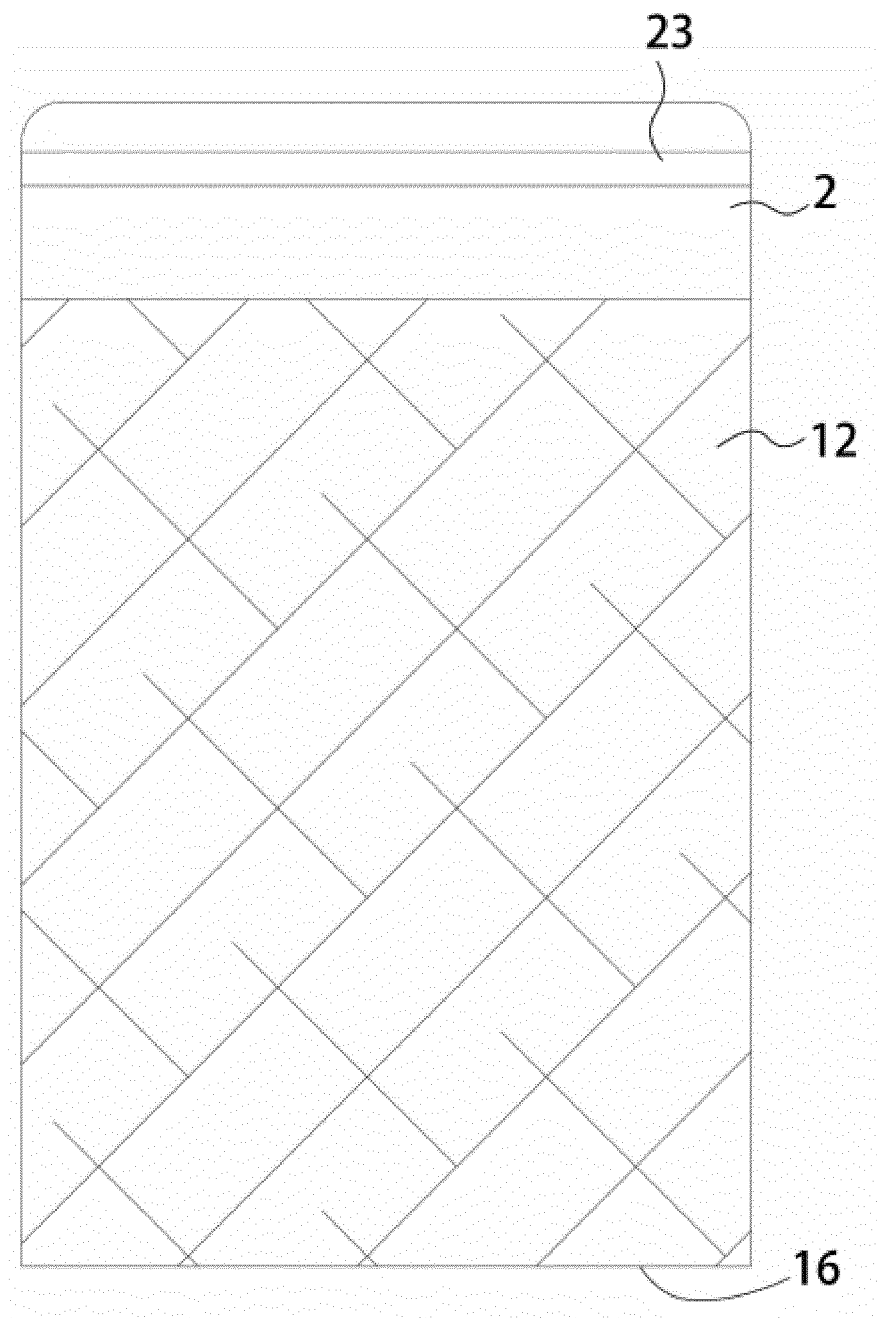


Fig. 1

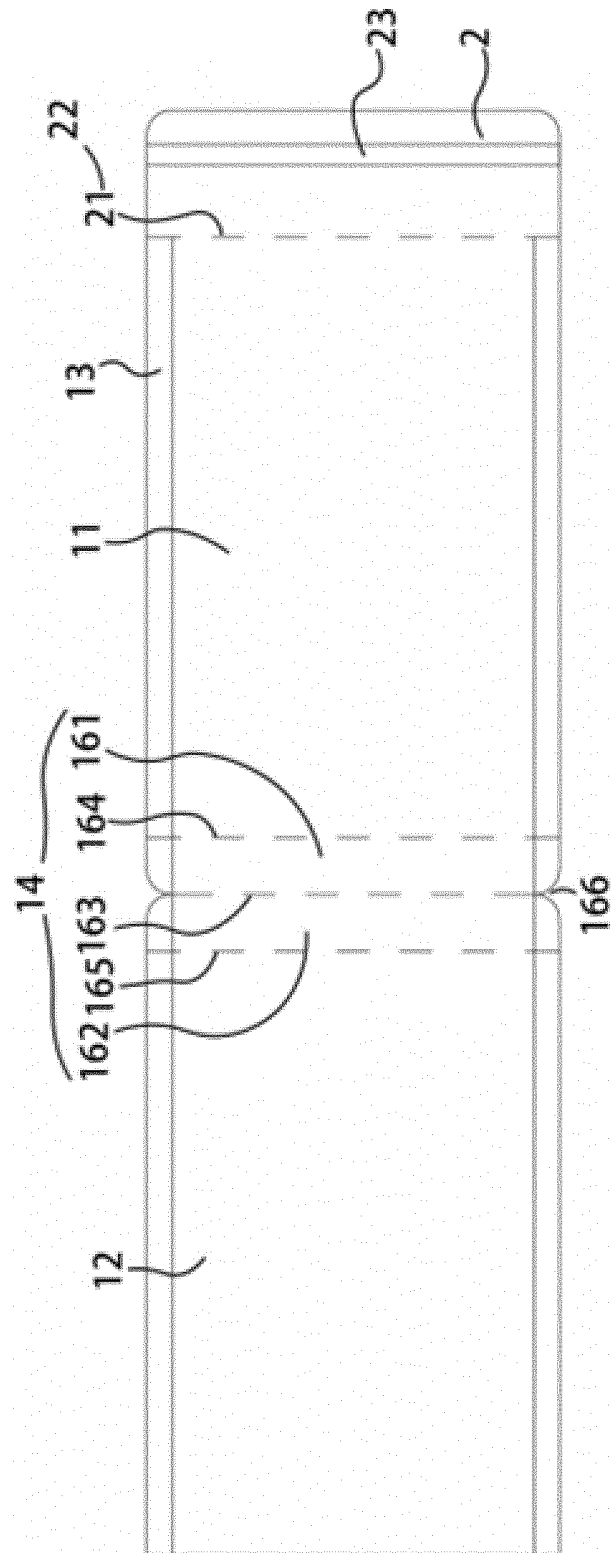


Fig.2

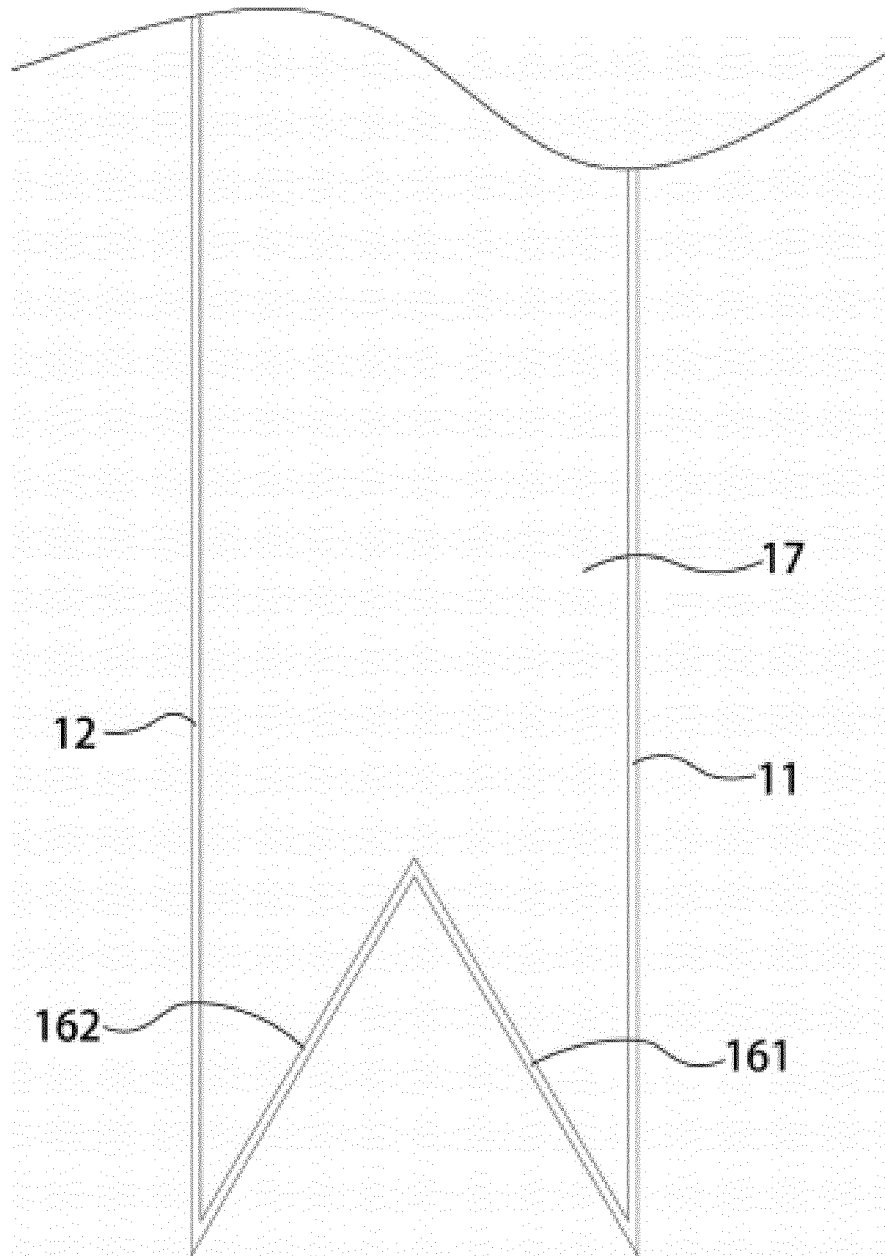


Fig. 3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2023/082381

A. CLASSIFICATION OF SUBJECT MATTER		
B65D30/10(2006.01);B65D33/18(2006.01);B65B43/02(2006.01);B65B51/02(2006.01);		
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)		
IPC: B65D, B65B		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
CNTXT, CNKI, DWPI: 袋, 折叠, 对折, 密封, 封口, 封装, 片, 线, bag, fold, seal, piece, line		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 217865041 U (DONGGUAN HEXIN PACKAGING PRODUCTS CO., LTD.) 22 November 2022 (2022-11-22) see claims 1-8	1-8
X	CN 216103741 U (SHANDONG JINXIANG PAPER INDUSTRY CO., LTD.) 22 March 2022 (2022-03-22) see description, paragraphs 22-29, and figures 1-4	1-3, 7, 8
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "D" document cited by the applicant in the international application "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "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 "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
08 May 2023		19 May 2023
Name and mailing address of the ISA/CN		Authorized officer
China National Intellectual Property Administration (ISA/CN) China No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088		Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2023/082381

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2023/082381

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TW M254429 U	01 January 2005	None	
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