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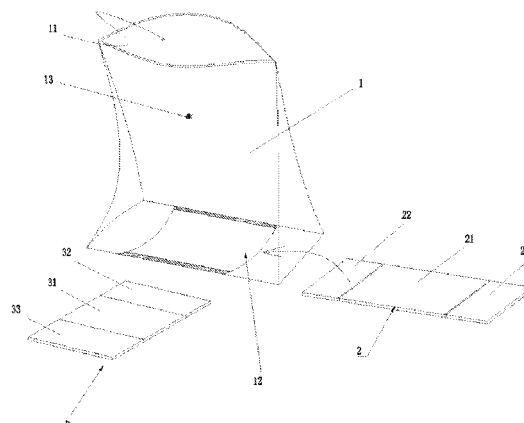
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(54) **STORAGE BOX**

(57) A storage box, comprising a vacuum bag (1), foldable first base board (2) and second base board (3) provided on the bottom of the vacuum bag for housing the vacuum bag, an opening (11) for putting in articles and a zipper for sealing the opening provided on the upper portion of the vacuum bag, and an air valve (13) for exhausting air in the bag provided on the vacuum bag, a cubic cavity (5) formed by enclosing the first base board and the second base board in which the vacuum bag is provided, a cover board (6) provided on the top of the cubic cavity, and an interlayer (12) provided in the bottom of the vacuum bag, wherein said first base board passes through the interlayer and foldable sections of the first base board extend beyond the interlayer, said second base board is provided across and under the first base board, and the bottom end of the vacuum bag is closely attached to and fixed on the second base board.

FIG. 1



## Description

### FILED OF THE INVENTION

[0001] The present invention relates to a box. In particular, it relates to a storage box for storing daily necessities, such as clothes.

### BACKGROUND OF THE INVENTION

[0002] Vacuum bags are often used for storage of daily necessities, such as clothes, to serve damp-proof, dust-proof or other purposes. Due to the convenience provided by using them, they make our daily life easier.

[0003] Existing vacuum bags are generally made of soft materials, such as PVC film, with a sealing strip and an air valve provided on them. However, due to the soft nature of the vacuum bag, when it is put into storage, the articles of clothing in the bottom may be damaged, or may show creases caused by the pressure from the articles above.

### SUMMARY OF THE INVENTION

[0004] One object of the present invention is to overcome the deficiency of the prior art and to provide a convenient storage box of a simple structure which can prevent articles of clothing from forming creases.

[0005] In order to solve the existing technical problem, the present invention adopts the following technical solutions:

[0006] A storage box, **characterized in that** it comprises a vacuum bag, foldable first base board and second base board provided at the bottom of the vacuum bag for housing the vacuum bag, an opening for receiving articles to be stored and a zipper for sealing the opening provided on the upper portion of the vacuum bag, an air valve on the body of the vacuum bag for removing the air from the bag to create an internal negative pressure. Said first and second base boards are configured to form a cubic cavity. Within said cubic cavity, said vacuum bag is housed. A cover board is provided on the top of the cubic cavity. An interlayer is provided at the bottom of the vacuum bag, wherein said first base board passes through the interlayer and foldable sections thereof extend beyond the interlayer, said second base board is provided across and under the first base board, and the bottom end of said vacuum bag is attached to and fixed on the second base board.

[0007] A storage box as described above, **characterized in that** said first base board comprises a bottom section and foldable left and right side sections, and said second base board comprises a bottom section and foldable front and back side sections. The bottom section of the first base board and that of the second base board overlap, and the left and right side sections of said first base board can be correspondingly folded upward to connect with the front and back side sections of the second

base board.

[0008] A storage box as described above, **characterized in that** Velcro hooks are respectively provided on both ends of the left side section and right side section of the first base board, and Velcro loops are correspondingly provided on both ends of the front side section and back side section of the second base board. The Velcro hooks and loops provides fasten between the side sections.

[0009] A storage box as described above, **characterized in that** straps are provided on the second base board, and a flexible connection head is provided at an end of each strap of the second base board. Straps are also provided on the cover board, and a connection slot for inserting the flexible connection head is provided at an end of each strap. The flexible connection head can form a snap connection with in the connection slot.

[0010] A storage box as described above, **characterized in that** a handle is further provided on the front side of the second base board.

[0011] The present invention has the following advantages over the prior art. Firstly, the present invention forms a cubic cavity enclosed by the first and second base boards, and a vacuum bag is housed in the cubic cavity, and then clothes are put into the vacuum bag such that creases will not be easily formed on the stored clothes and the shape of the clothes can be well protected, and no further process is required when the clothes are taken out for wearing again, thus saving time. Secondly, the first and second base boards in the present invention are securely connected by Velcro attachment for convenience in use, and a handle is further provided on the second base board to facilitate carrying. Thirdly, the present invention can be easily disassembled when not in use, and it takes very little room when further folded after disassembling.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 depicts an exploded view of a storage box of the present invention with the cover board removed;

[0013] FIG. 2 depicts a three-dimensional view of a storage box of the present invention with the cover board removed;

[0014] FIG. 3 depicts an exploded view of the first base board, the second base board and the cover board;

[0015] FIG. 4 depicts a cross-sectional view of FIG. 2 along line A-A;

[0016] FIG. 5 depicts a cross-sectional view of FIG. 2 along line B-B;

[0017] FIG. 6 depicts a three-dimensional view of a storage box of the present invention.

### DETAILED DESCRIPTION OF PARTICULAR EMBODIMENTS OF THE INVENTION

[0018] The present invention is described in detail be-

low with reference to the figures:

**[0019]** As shown in the FIGs 1-6, a storage box of the present invention comprises a vacuum bag 1, a first base board 2 and a second base board 3 provided at the bottom of the vacuum bag 1 for housing the vacuum bag 1, an opening 11 for putting in articles to be stored and a zipper for sealing said opening 11 provided on the upper portion of the vacuum bag 1. Articles to be stored are put into the bag through the opening 11 and the opening 11 is sealed by the zipper. An air valve 13 for removing the air from the bag is provided on said vacuum bag 1, and the air in the vacuum bag 1 is removed through the air valve 13 after the articles are stored therein.

**[0020]** First base board 2 and second base board 3 encompass and form a cubic cavity 5, and a cover board 6 is further provided on the top of the cubic cavity 5 to cover the cubic cavity 5 such that it forms a cubic box. An interlayer 12 is provided at the bottom of the vacuum bag 1, and said interlayer 12 comprises a piece of soft cloth or plastic, of course, it may be other materials, and the interlayer can be formed by connecting both edges of the cloth with both edges of the bottom of the vacuum bag 1.

**[0021]** First base board 2 passes through interlayer 12, and the foldable sections (22, 23) of the first base board 2 extends beyond the interlayer 12. Second base board 3 is provided across and under first base board 2, the bottom of said vacuum bag 1 is in connection with the first base board 2, and the bottom of said interlayer 12 is in contact with the second base board 3. First base board 2 comprises a bottom 21 section and foldable left and right side sections 22, 23, respectively, being connected to the bottom section 21. Bottom 21 section is put into the interlayer 12, while the left and right side sections 22, 23 extend beyond the interlayer 12 and are folded upward. Second base board 3 comprises a bottom section 31 and foldable front and back side sections 32, 33, respectively, being connected to the bottom 31 section. Bottom section 21 of the first base board 2 and bottom section 31 of the second base board 3 overlap, while the front and back side sections 32, 33 are folded upward. The left and right side sections 22, 23 of said first base board 2 are correspondingly folded upward to connect with the front and back side section 32, 33 of the second base board 3 to form a sidewall.

**[0022]** Velcro hooks 7 are respectively provided on both ends of the left and right side sections 22, 23 of the first base board 2, and Velcro loops 8 are provided correspondingly on both ends of the front and back side sections 32, 33 of the second base board 3, and the Velcro hooks 7 and Velcro loops 8 are fastened with each other to facilitate convenient connection between the first base board 2 and the second base board 3.

**[0023]** Straps 36 are provided on the second base board 3, a flexible connection head 34 is connected to an end of each strap 36, and straps 37 are also provided on the cover board 6, a connection slot 61 for inserting the flexible connection head 34 is connected to an end

of each strap 37, and the flexible connection heads 34 are snapped in the connection slots 61 to facilitate a complete connection between the cubic cavity 5 and the cover board 6.

**[0024]** A handle 35 is further provided on the front side 32 of the second base board 3 to facilitate carrying by a user.

## 10 Claims

1. A storage box, **characterized in that** it comprises a vacuum bag (1), foldable first base board (2) and second base board (3) provided on the bottom of the vacuum bag (1) for housing the vacuum bag (1), an opening (11) for receiving articles to be stored and a zipper for sealing the opening (11) provided on the upper portion of the vacuum bag (1), an air valve (13) for removing the air from the bag provided on the vacuum bag (1), a cubic cavity (5) formed by enclosing of said first base board (2) and said second base board (3) in which said vacuum bag (1) is housed, a cover board (6) provided on the top of the cubic cavity (5), and an interlayer (12) provided in the bottom of the vacuum bag (1), wherein said first base board (2) passes through the interlayer (12), and the foldable portions of the first base board (2) extend beyond the interlayer (12), said second base board (3) is provided across and under the first base board (2), and the bottom end of said vacuum bag (1) is closely attached to and fixed on the second base board (3).
2. The storage box according to claim 1, **characterized in that** said first base board (2) comprises a bottom section (21) and foldable left and right side sections (22, 23) connected with the bottom section (21), and said second base board (3) comprises a bottom section (31) and foldable front and back side sections (32, 33) connected with the bottom section (31); the bottom section (21) of the first base board (2) and the bottom section (31) of the second base board (3) overlap, and the left and right side sections (22, 23) of said first base board (2) can be correspondingly folded upward to connect with the front and back side section (32, 33) of the second base board (3).
3. The storage box according to claim 2, **characterized in that** Velcro hooks (7) are respectively provided on both ends of the left and right side sections (22, 23) of the first base board (2), and Velcro loops (8) are provided correspondingly on both ends of the front and back side sections (32, 33) of the second base board (3), and the Velcro hooks (7) and Velcro loops (8) are fastened with each other.
4. The storage box according to claim 3, **characterized in that** straps (36) are provided on the second base

board (3), a flexible connection head (34) is connected to an end of each strap (36), and straps (37) are also provided on the cover board (6), a connection slot (61) for inserting the flexible connection head (34) is connected to an end of each strap (37), and the flexible connection heads (34) are snapped in the connection slots (61). 5

5. The storage box according to claim 2 or 5, **characterized in that** a handle (35) is further provided on the front side (32) of the second base board (3). 10

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FIG. 1

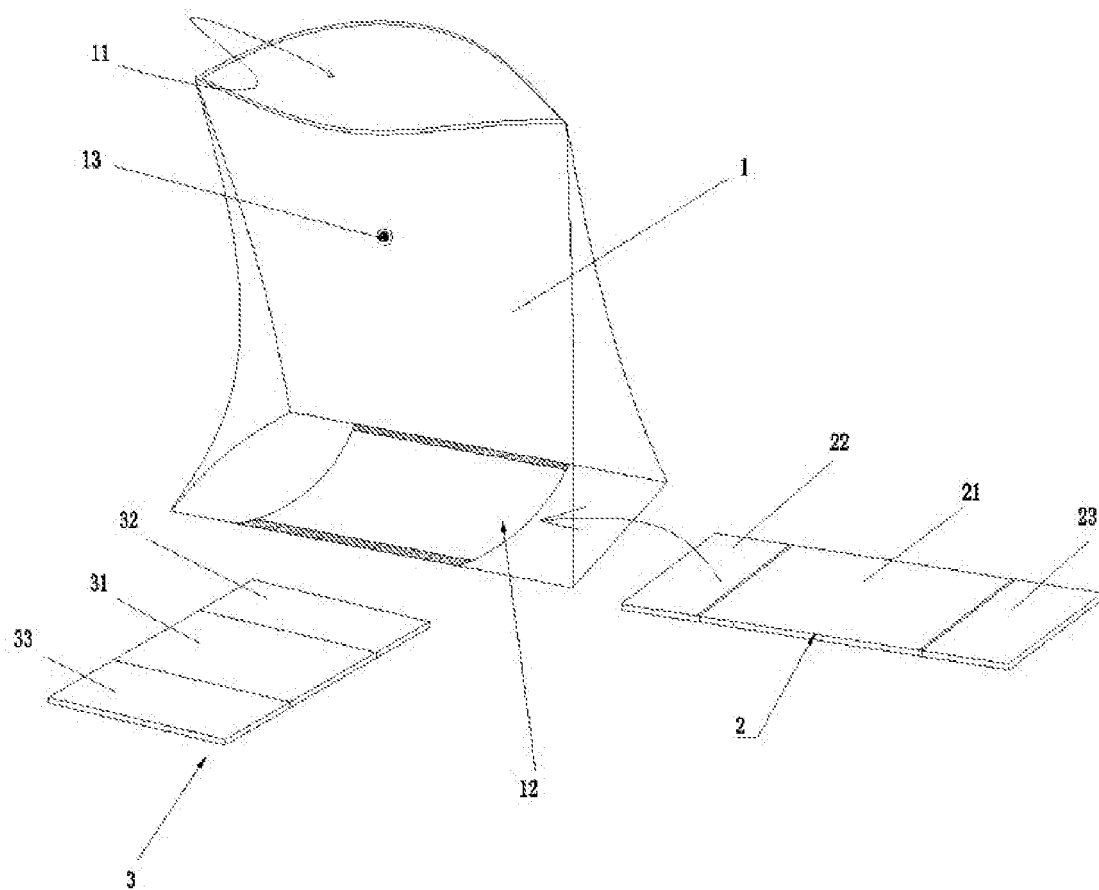


FIG. 2

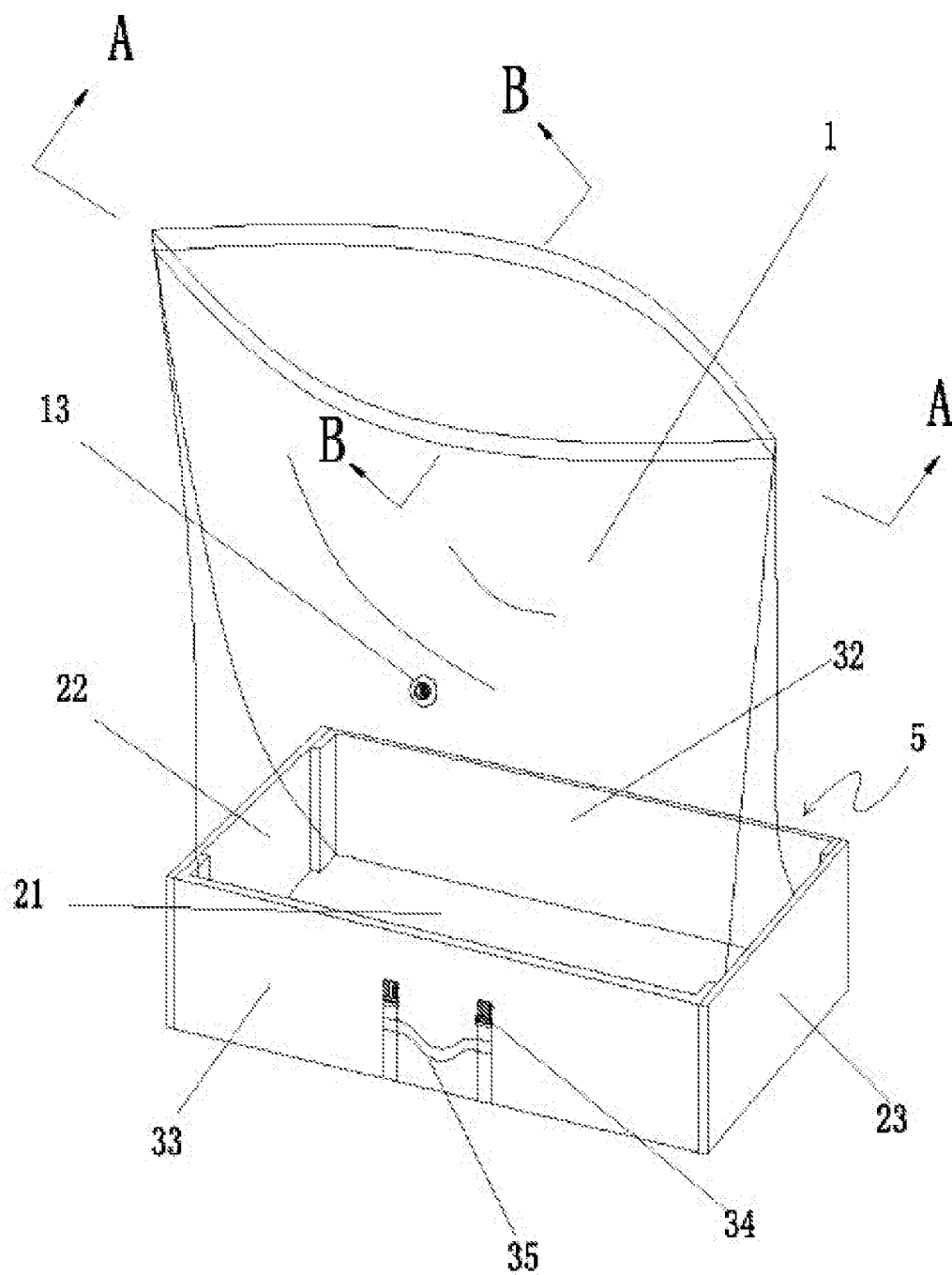


FIG. 3

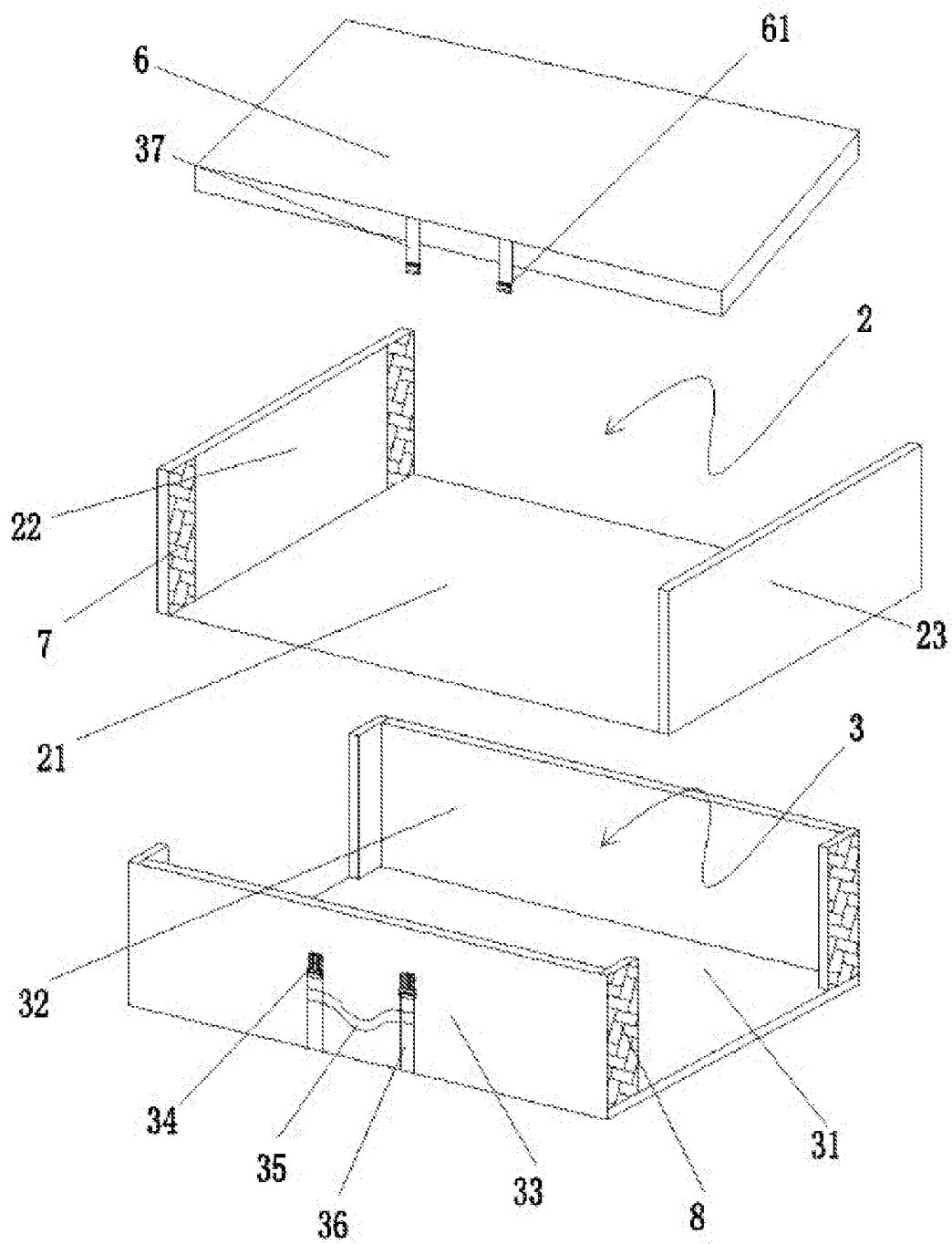


FIG. 4

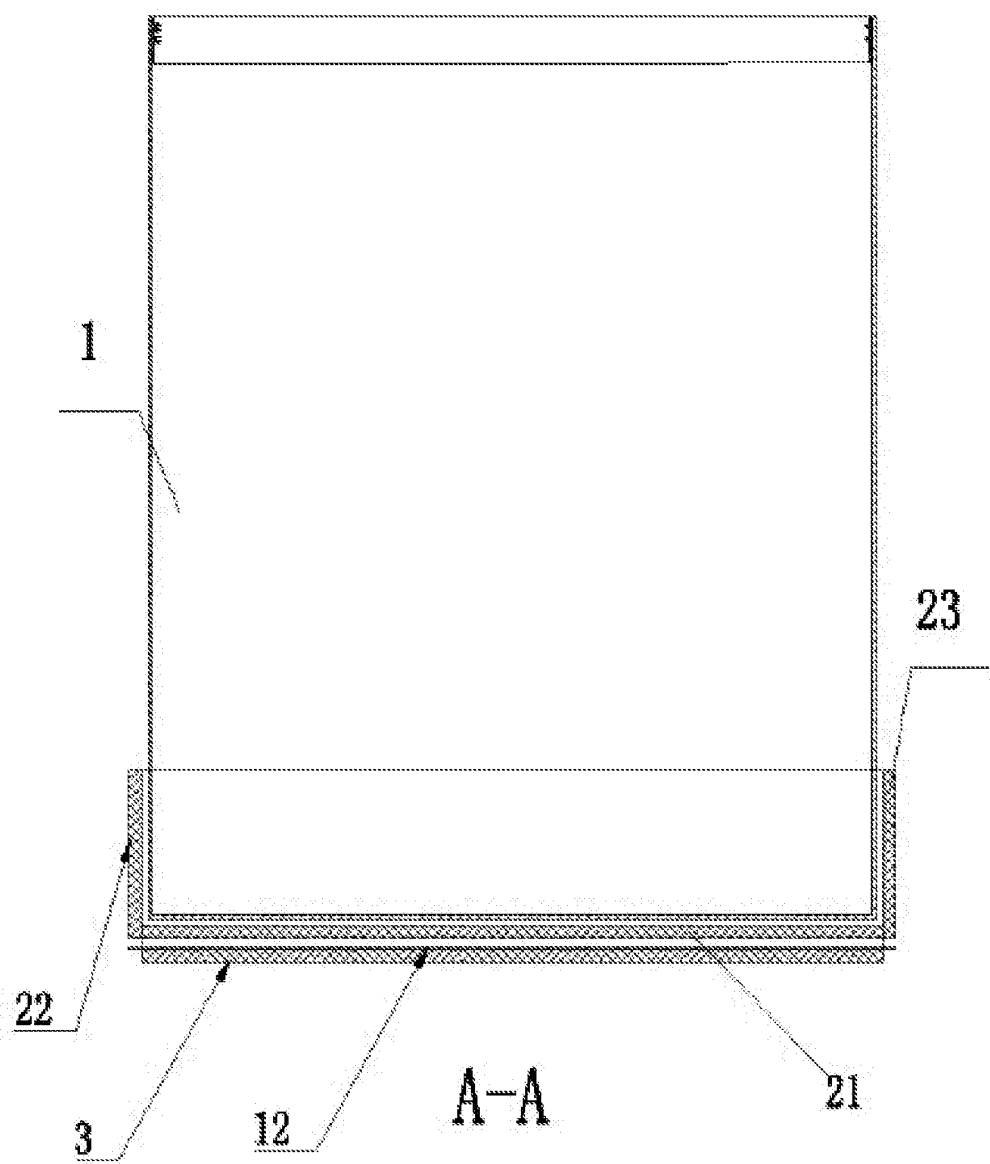




FIG. 5

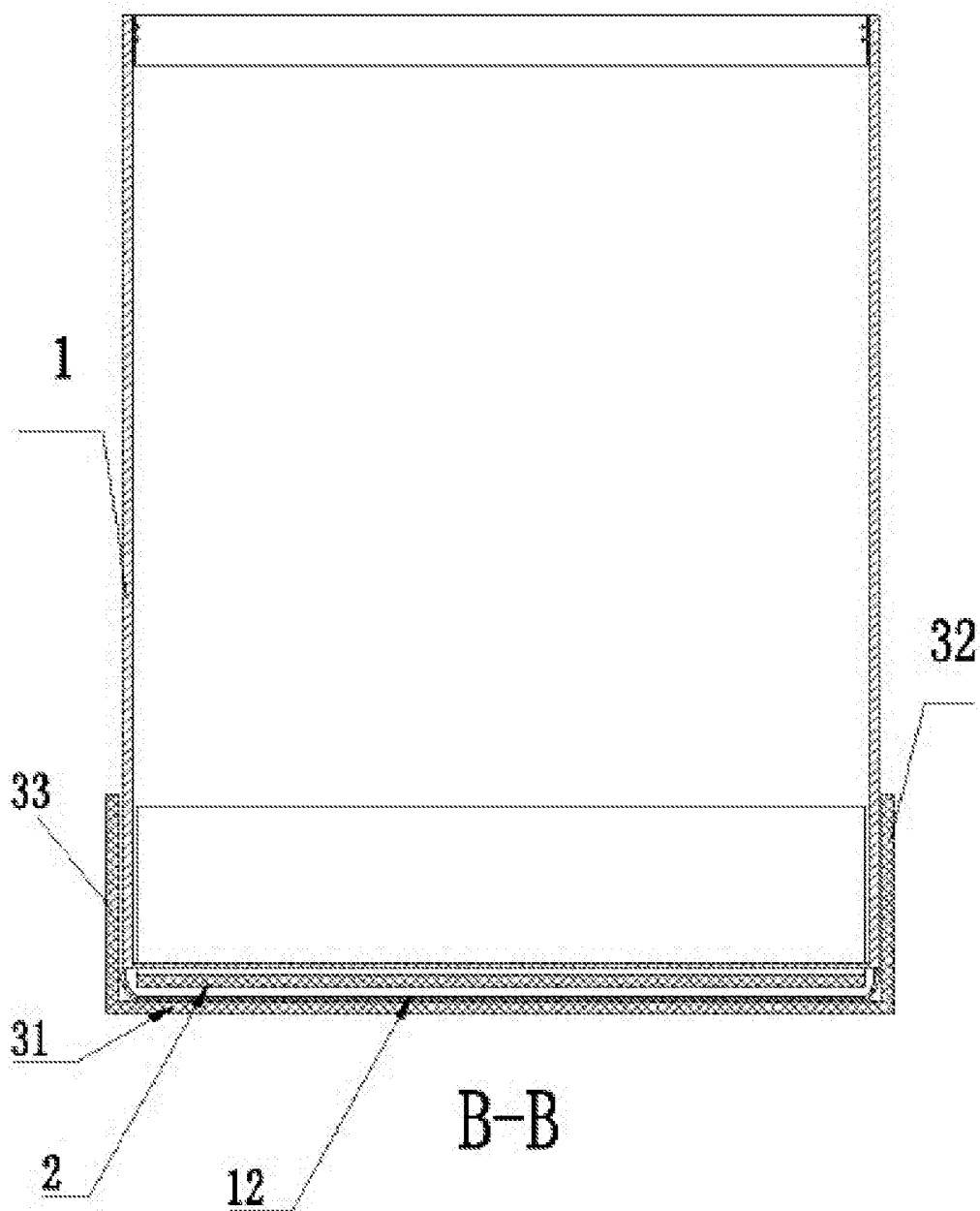
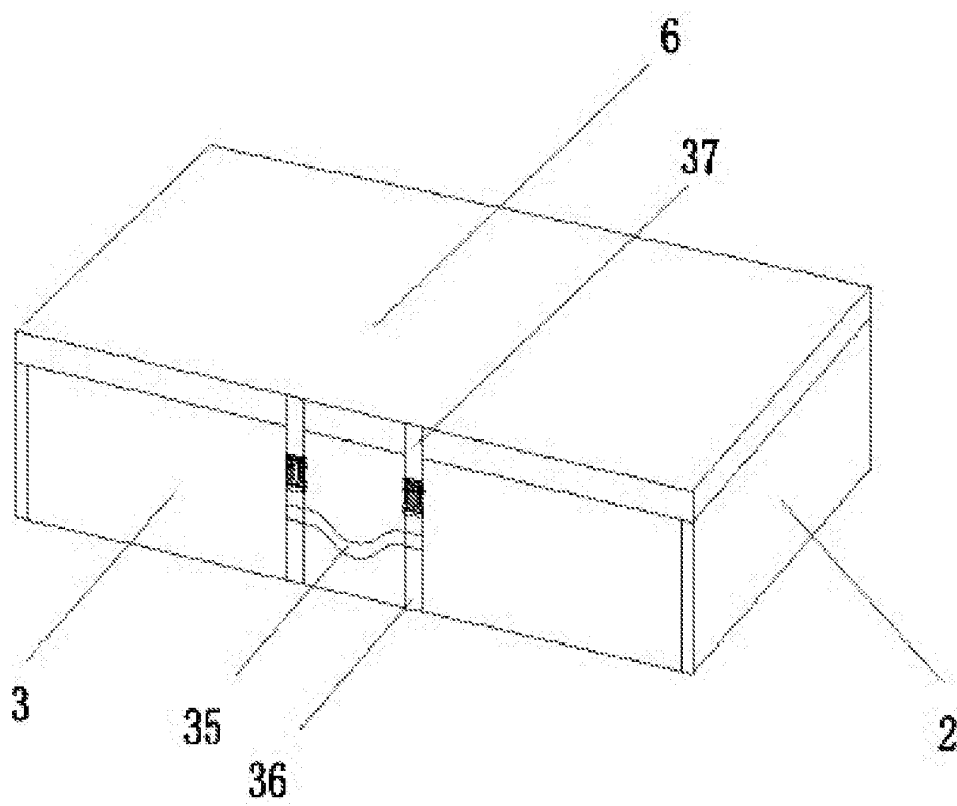


FIG. 6



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2009/071552

## A. CLASSIFICATION OF SUBJECT MATTER

See the extra sheet

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 81/-, 85/-, 77/-, 30/-, 33/-, 25/-

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)

WPI; EPODOC; PAJ; CNPAT; CNKI: box, case, housing, casket, container, bag, pocket, sack, pouch, vacuum, airvoid, vacuity, vac

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	CN101497389A (SHI, Zhengbing) 05 Aug. 2009 (05.08.2009) claims 1-5	1-5
A	CN2692083Y (CHEN, Shuling) 13 Apr. 2005 (13.04.2005) the whole document	1-5
A	FR2912997A1 (HERBLOT, R.) 29 Aug. 2008 (29.08.2008) the whole document	1-5
A	CN2902949Y (WU, Jiayin et al.) 23 May 2007 (23.05.2007) the whole document	1-5
A	CN200995855Y (CAI, Zhenlin) 26 Dec. 2007 (26.12.2007) the whole document	1-5
A	US2005/0155891A1 (CHEN, Shuling) 21 Jul. 2005 (21.07.2005) the whole document	1-5
A	CN201086936Y (SHI, Zhengbing) 16 Jul. 2008 (16.07.2008) the whole document	1-5

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent but published on or after the international filing date	"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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"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	

Date of the actual completion of the international search  
15 Oct. 2009 (15.10.2009)Date of mailing of the international search report  
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Form PCT/ISA/210 (second sheet) (July 2009)

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.

PCT/CN2009/071552

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN101497389A	05.08.2009	None	
CN2692083Y	13.04.2005	None	
FR2912997A1	29.08.2008	None	
CN2902949Y	23.05.2007	None	
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CN201086936Y	16.07.2008	None	

Form PCT/ISA /210 (patent family annex) (July 2009)

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International application No.

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CLASSIFICATION OF SUBJECT MATTER

B65D 81/20 (2006.01) i

B65D 85/18 (2006.01) i

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