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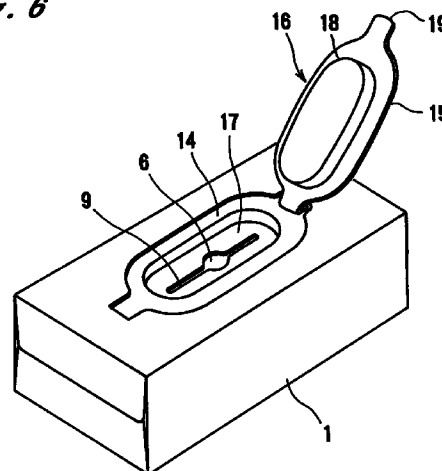
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(54) PACKAGE OF WET TISSUE PAPER

(57) A package of wet tissue paper, of which the container can be readily discarded after use. A laminate sheet composed of a paper stock (11) and an airtight film (12) is used to constitute a container body (1). Mounted to the container body (1) are cover unit parts (4, 16) which comprise base plates (2, 14) provided with a wet tissue paper take-out port (6), and cover bodies (3, 15) supported on the base plates (2, 14). The cover unit parts (4, 16) may be constructed as injection moldings of plastic or moldings of plastic sheet. In the case where the cover unit parts are constructed as moldings of plastic sheet, the base plate (14) and the cover body (15) can be constructed by using a laminate sheet composed of a paper stock and an airtight film.

Fig. 6



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Description

Technical Field:

The present invention relates to a packet for wet tissues which includes a paper container for containing wet tissues, and particularly to a packet for wet tissues which is of an disposable type being simple in disposal of a spent container.

Background Art:

Recently, wet tissues have come to be extensively used for bussiness and homes, with the expended amount increased year after year. Wet tissues, each of which is composed of a fibrous sheet such as a nonwoven fabric impregnated with an impregnant such as a chemical or toiletries, are used for wiping of the back-side of a baby, removal of stains from hands, disinfection, or the like.

Packets for wet tissues are classified into two types: one having a container for containing wet tissues; and the other having a bag for containing wet tissues. A container type packet is so constructed that the container formed of a molded product of hard or semi-hard plastic contains folded wet tissues or a roll of wet tissue. The packet of this type is further classified into two types: one being of an disposable type in which the container is discarded after wet tissues are consumed; and the other being of a refill type in which the container itself is usable again and again by replacement of an inner bag inserted in the container with a new one. Japanese Patent Laid-open No. Hei 6-263174 discloses a container type packet for wet tissues.

The bag type packet for wet tissues is so constructed that a bag formed of an air-tight film contains folded wet tissues. The packet of this type, which is aimed at disposal, is portable. Japanese Patent Publication No. Hei 2-30948 discloses a bag type packet for wet tissues.

The container type packet is complicated in structure of the container because the container is formed of a molded product of hard or semi-hard plastic. In general, a cylindrical or substantially cylindrical container is used for containing a roll of wet tissue; while a rectangular parallelepiped container is used for containing a stacked body of folded wet tissues. Such a container, which is composed of a container portion and a lid portion, has a barrier performance for preventing volatilization of an impregnant impregnated in wet tissues by mounting the lid portion.

In general, the cylindrical container is so designed that the lid portion is fixed on the container portion by screw fixing, while the rectangular parallelepiped container is so designed that the lid portion is locked onto the container portion by snap action. The screw fixing structure makes cumbersome the manufacture of the container because screw grooves must be formed in the container portion and the lid portion. On the other hand,

the locking structure using snap action complicates the structure of the container because a locking projection and a locking recess are provided for example on the container portion and in the lid portion, respectively.

A pick-up port for picking up wet tissues is provided in the lid portion of such a container, and a lid for opening/closing the pick-up port is mounted on the lid portion, to thus constitute a so-called double lid structure.

The container type packet is disadvantageous in increasing the manufacturing cost of the container because each of the cylindrical container and the rectangular parallelepiped container is complicated in structure and is cumbersome in manufacture as described above.

Another disadvantage of the container type packet is that a spent container cannot be bent or crushed upon disposal, failing to reduce the volume of the container to be discarded. In addition, the container cannot be burned upon disposal, causing a difficult problem in terms of waste disposal.

The bag type packet is more simple in structure and lower in manufacturing cost than the above-described container type packet; however, it has the same problem as that of the container type packet, that is, it cannot be burned upon disposal.

The bag type packet having a structure that an adhesive is applied on the lid for opening/closing the wet tissue pick-up port whereby the lid is fixed on the bag by an adhesive force of the adhesive for covering the pick-up port, has another disadvantage that the adhesive force is gradually lowered by repeated use of the lid, thereby gradually deteriorating the barrier performance. The deteriorated barrier performance allows an impregnant impregnated in wet tissues contained in the bag to be gradually volatilized. This makes it difficult to keep the quality of wet tissues.

A further disadvantage of the bag type packet is that since the bag is made of a soft material, wrinkles are generated around the pick-up port upon closing the lid, and thereby the lid is closed in a state that the wrinkles remain. This also lowers the barrier performance of the bag.

An object of the present invention is to provide a packet for wet tissues which can be simply discarded by burning like general burnable refuse.

Another object of the present invention is to provide a packet for wet tissues which is simple in structure, easy in manufacture, and low in manufacturing cost.

A further object of the present invention is to provide a packet for wet tissues which is excellent in barrier performance and can keep the excellent barrier performance over a long period even by repeating opening/closing of a lid.

Disclosure of the Invention:

According to the present invention, there is provided a packet for wet tissues having a container main body made of a paper material, wherein the container

main body has a barrier performance, that is, an air-tightness for preventing volatilization of an impregnant impregnated in wet tissues. The container main body may be formed of a laminated sheet composed of a paper material laminated with an air-tight film for ensuring an air-tightness.

A pick-up port for picking up wet tissues may be directly or indirectly provided in the container main body containing wet tissues. A lid body for opening/closing the pick-up port may be provided on the container main body by a physical action such as fitting or engagement.

Since the container main body of the present invention is made of a paper material, a spent container can be bent or crushed into a small volume or manually cut into fine pieces upon disposal of the spent container, to thereby contribute to a reduction in volume of refuse.

The container made of a paper material can be also burned, and thereby it does not cause any environmental pollution accompanied by waste disposal.

The packet for wet tissues of the present invention using a paper container, can be simplified in structure and made easy in manufacture, resulting in the reduced cost.

The packet for wet tissues of the present invention including a lid opening/closing structure in which the lid is fixed on the container main body by a physical action such as fitting or engagement, makes it possible to increase a barrier performance of the container, and to keep the quality of wet tissues for a long period without lowering of the barrier performance after repeating opening/closing of the lid again and again.

Brief Description of the Figures:

Fig. 1 is a perspective view showing one embodiment of a packet for wet tissues of the present invention;

Fig. 2 is a schematic vertical sectional view taken on line I—I of Fig. 1;

Fig. 3 is a perspective view showing one example of a lid unit part;

Fig. 4 is a vertical sectional view of an essential portion of the packet of the present invention showing an opening/closing state of a lid body;

Fig. 5 is a perspective view of the packet of the present invention showing a state that a wet tissue is picked up;

Fig. 6 is a perspective view of another embodiment of the packet of the present invention;

Fig. 7 is a vertical sectional view of an essential portion of the packet of Fig. 6 showing an opening/closing state of a lid body;

Fig. 8 is a vertical sectional view of an essential portion of a first joining state between a container main body and a lid unit part;

Fig. 9 is a vertical sectional view of an essential portion of a second joining state between a container main body and a lid unit part;

Fig. 10 is a vertical sectional view of an essential

portion of a third joining state between a container main body and a lid unit part;

Fig. 11 is a perspective view of a further embodiment of the packet of the present invention;

Fig. 12 is a vertical sectional view of an essential portion of the packet of Fig. 11 showing a fitting state of a lid body;

Fig. 13 is a schematic view of a hinge of the lid body, which is different from that shown in Fig. 3;

Fig. 14 is a schematic diagram showing processes for manufacturing the packet of the present invention; and

Figs. 15A, 15B and 15C are schematic views showing a method of sealing the end portion of the container in the processes for manufacturing the packet of the present invention.

Best Mode for Carrying Out the Invention:

Hereinafter, the present invention will be described in detail with reference to the accompanying drawings.

Fig. 1 shows one embodiment of a packet for wet tissues according to the present invention. Referring to Fig. 1, a container main body 1 is formed in a rectangular parallelepiped shape. A lid unit part 4 composed of a base plate 2 and a lid body 3 is mounted on the upper surface of the container main body 1.

Referring to Fig. 2, wet tissues 5 are contained in the container main body 1, and a pick-up port 6 for picking up the wet tissues 5 is provided in the base plate 2 of the lid unit part 4. The lid body 3 having a function of opening/closing the pick-up port 6 is supported on the base plate 2. The lid body 3, which is previously mounted on the base member 3, constitutes a unit part together with the base member 2. One preferable example of such a unit part composed of the base member 2 and the lid body 3 is shown in Fig. 3.

Referring to Fig. 3, the lid unit part 4 includes the base plate 2 and the lid body 3 turnably supported on the base plate 2 through a hinge 7. The base member 2 has the pick-up port 6 and also has a ring-like projection 8 provided at a position surrounding the pick-up port 6. The pick-up port 6 is a hole not particularly specified in size and shape insofar as it allows a wet tissue to be picked up therethrough. Narrow width passages 9 are preferably provided as shown in Fig. 3. The provision of these narrow width passages 9 enables pop-up of a wet tissue upon picking-up of a wet tissue.

The pop-up of a wet tissue is such a mechanism that when one wet tissue is picked up, a second wet tissue is lifted up together with the first wet tissue, and when the first and second wet tissues are separated from each other, the upper end of the second wet tissues is jumped over the pick-up port 6. To realize such a pop-up mechanism, wet tissues are folded and overlapped to each other in such a manner that the folded end of one folded wet tissue is caught by a folded end of an adjacent wet tissue.

Moreover, to realize the pop-up mechanism, the

narrow width passages 9 are required to impart a suitable resistance against a force applied to the narrow width passages upon picking-up of the wet tissue.

The lid body 3 is provided with a ring-like projection 10 fittable with the ring-like projection 8 formed on the base plate 2. When the lid body 3 is closed, the ring-like projection 10 is fitted with the ring-like projection 8, as a result of which the lid body 3 is fixed to the base member 2, to thereby seal the inside of the container main body 1. The shape of each of the projections 8 and 10 is not limited to a ring-shape but may be a square or polygonal shape.

The container main body 1 is formed of a paper material. Specific examples of the paper materials include paper board, converted paper, Japanese paper and recycle paper.

The container main body 1 is required to have, a barrier performance, that is, an air-tightness for preventing volatilization of an impregnant such as disinfectant alcohol impregnated in wet tissues. For this purpose, a paper material constituting the container main body 1 is laminated with an air-tight film. Specific examples of the air-tight films include a plastic film made of polyethylene, polypropylene, polyester, polyamide, polyvinyl chloride, polyvinylidene chloride, cellophane or polyacetate; a laminated film composed of two kinds or more of the plastic films; and a laminated film of the plastic film laminated with an aluminum foil.

Such an air-tight film may be laminated on one surface or both surfaces of a paper material. Fig. 4 shows a container main body 1 in which an air-tight film 12 is laminated on one surface of a paper material 11. In this case, the air-tight film 12 is generally provided on the inner surface side of the container main body 1.

The air-tight film 12 is preferably laminated on the paper material 11 in such a manner as to be easily separated from the paper material 11. For example, the air-tight film 12 may be laminated to the paper material 11 in such a manner as to be partially joined therewith, and preferably, to be point-bonded therewith.

Such lamination allows the air-tight film 12 to be separated from the paper material 11 when a spent container is discarded, as a result of which the container can be burned as a pure paper material being not mixed with any plastic material.

The lid unit part 4 is formed of a hard or semi-hard plastic material typically by injection molding. When the lid unit part 4 is formed by injection molding, the base plate 2 can be integrated with the lid body 3. Specific examples of the plastic materials forming the lid unit part 4 by injection molding include polypropylene, polyethylene and polyvinyl chloride.

A window portion 13 is formed in the container main body 1, and the lid unit part 4 is mounted in the window portion 13. The lid unit part 4 is generally fixed on the container main body 1 by heat seal; however, it can be fixed on the container main body 1 by high frequency seal or ultrasonic seal. In the container shown in Fig. 4, since the air-tight film 12 is provided on the inner sur-

face side of the container main body 1, the lid unit part 4 is fixed on the inner surface side of the container main body 1 by heat seal.

Fig. 5 shows a state that a wet tissue 5 is picked up after opening of the lid body 3. The packet for wet tissues according to the present invention allows the wet tissue 5 to be simply picked up by a single operation, as shown in Fig. 5.

According to the present invention, each of the base plate and the lid body of the lid unit part can be formed of a plastic sheet molded by general thermal molding such as vacuum molding or pressure molding. Specific examples of the plastic materials used for sheet molding include polypropylene, polyethylene and polyvinyl chloride.

Fig. 6 shows another embodiment of the packet for wet tissues using a lid unit part 16 composed of a base plate 14 and a lid body 15, wherein each of the base plate 14 and the lid body 15 is formed by sheet molding. One end of the lid body 15 is joined with the base plate 14 by heat seal or bonding using an adhesive. The joined end portion of the lid body 15 functions as a hinge 32 (see Fig. 7).

A recessed portion 17 is formed in the base plate 14, and a raised portion 18 fittable with the recessed portion 17 is formed on the back surface of the lid body 15. Reference numeral 19 indicates a knob to be caught by a finger for opening the lid body 15. As shown in Fig. 7, when the lid body 15 is closed, the raised portion 18 of the lid body 15 is fitted in the recessed portion 17 of the base plate 14, as a result of which the lid body 14 is fixed on the base member 14, to thereby seal the inside of the container main body 1.

The lid unit part can be also formed of a paper material, like the container main body. In the case where the lid unit part is formed of a paper material, each of the base plate and the lid body is formed by sheet molding of a laminated film composed of the paper material and an air-tight film. The paper material used for the container main body 1 can be used for the lid unit part. Similarly, the air-tight film laminated on the paper material used for the container main body 1 can be used for the lid unit part.

The air-tight film may be laminated on one surface or both surfaces of the paper material used for the lid unit part, like the container main body. Fig. 8 shows the lid unit part in which an air-tight film is laminated on one surface of a paper material. The base plate 14 shown in Fig. 8 is formed of a laminated sheet composed of a paper material 20 and an air-tight film 21, and the air-tight film 21 is positioned on the front surface of the paper material 20. Accordingly, when the lid unit part 16 is mounted in a window portion 13 of the container main body 1, the air-tight film 21 is brought in contact with the surface of an air-tight film 12 of a laminated sheet of the container main body 1, which enables heat seal therebetween.

Fig. 9 shows the container main body 1 formed of a laminated sheet composed of the paper material 11 on

both surfaces of which air-tight films 12, 12 are laminated. In this case, the base plate 14 of the lid unit part can be heat-sealed on the film 12 positioned on the front surface side of the laminated sheet. This allows the lid unit part to be mounted on the upper side of the window portion 13 of the container main body.

A paper material can be positioned on the front surface side of each of the laminated sheets forming the container main body and the lid unit part. Referring to Fig. 10, paper materials 11, 20 and 22 are positioned on the front surface sides of the laminated sheets forming the container main body 1, base plate 14 and the lid body 15 of the lid unit part, respectively. In Fig. 9, reference numeral 23 indicates an air-tight film of the laminated sheet of the lid body 15.

When the lid unit part 16 is mounted in the window portion 13 of the container main body 1 in such a state, the film surface of the container main body 1 is brought in contact with the paper surface of the base plate 14, and accordingly part of the paper material 20 of the base plate 14 is cut-off in order that the film surfaces are brought in contact with each other and can be subjected to heat seal.

It is advantageous that the container main body 1, and the base plate 14 and the lid body 15 of the lid unit part, each of which is formed of the laminated sheet, are assembled in such a manner that the paper materials of the laminated sheets are all positioned on the front surface sides. Namely, the packet for wet tissues thus assembled gives an impression from the senses of sight and touch that all components are made of paper. This allows a consumer to instantly understand such a characteristic of the packet for wet tissues that a spent container can be discarded as a burnable refuse matter, and to have a favorable impression for the packet.

The design of the lid body 15 formed by sheet molding may be changed by replacement of the raised portion 18 shown in Fig. 6 with a projecting portion 25 interiorly having a recessed portion 24 as shown in Fig. 11. With this configuration, when the lid body 15 is closed, a space 26 is generated as shown in Fig. 12. When the upper end portion of the second wet tissue is popped up over the pick-up port 6, the popped-up portion can be thus contained in the space 26.

The means for fixing the lid body formed by sheet molding to the base plate when the lid body is closed is not limited to those described above, but may be variously changed. For example, another projecting portion may be provided at the raised portion 18 or the projecting portion 25 of the lid body, or in the neighborhood thereof, and a recessed portion corresponding thereto may be provided in the base plate, whereby the lid body is fixed on the base plate by engagement of the projecting portion with the recessed portion.

In the case of forming a hinge by joining the end portion of the lid body to the base plate, as shown in Fig. 13, an end portion 15a of the lid body 15 may be joined to the base plate 14 in such a manner as to be folded when the lid body 15 is closed. In this case, since the lid

body is closed in a state that the end portion 15a of the lid body is elastically deformed, a restoring force is usually exerted on the hinge 27. As a result, the lid body is naturally opened by the restoring force exerted on the hinge 27 at the time of releasing the fitting between the raised portion 18 or the projecting portion 25 of the lid body and the recessed portion 17 of the base plate.

Moreover, when the lid body is opened, it is kept opened. This prevents the lid body from being undesirably brought in contact with the hand moving for picking up a wet tissue.

Although the pick-up port is provided indirectly in the container main body by mounting the base plate having the pick-up port on the container main body in the above-described embodiment, it may be provided directly in the container main body as another embodiment of the present invention. The pick-up port can be directly provided in the container main body by a method wherein when a recess fittable with a lid body is formed in a raw sheet by thermal pressing in the process of manufacturing a container, the pick-up port is provided by punching the raw sheet.

Next, one example of a method of manufacturing a packet for wet tissues according to the present invention will be described with reference to Fig. 14.

A laminated sheet 28 composed of a paper sheet laminated with an air-tight film is continuously fed from a feeder with the film surface upward. The laminated sheet 28 is punched by a punching machine 29, to form a window portion 13, and then it is cut into a specified development shape having a specified size. A lid unit part 4 is fed from top to bottom and is placed on the window portion 13 of the laminated sheet 28. A heating plate of a heat seal apparatus 30 positioned under the laminated sheet 28 is pressed on a peripheral edge portion of the window portion 13, to integrally join the laminated sheet 28 with the lid unit part 4 by heat seal. A stacked body 31 of folded wet tissues is fed from top to bottom and is placed on the lid unit part 4.

The laminated sheet 28 formed in the development shape is then folded in a box while wrapping the stacked body 31 of wet tissues. After assembly of the laminated sheet 28 into a box, necessary portions such as end portions are joined to each other by heat seal, to complete a container enclosing the stacked body 31 of wet tissues.

The method of sealing both end portions of the container will be described below with reference to Figs. 15A, 15B and 15C.

First, both side plates 1a, 1b positioned at the one end portion of the container are folded along a dashed line shown in Fig. 15A. Subsequently, an upper surface plate 1c and a lower surface plate 1d positioned at the one end portion of the container are also folded as shown in Figs. 15B and 15C. The end surface of the container is pressed and heat-sealed in such a state, to form a sealed container.

Exploitation in Industry:

A packet for wet tissues of the present invention is used for wiping the backside of a baby or hands for the purpose of cleaning the backside of the baby or hands. In the invention, a container after use can be easily discarded, and especially, it can be treated as waste, for which the invention has advantages.

Claims

1. A packet for wet tissues comprising a container main body (1) for containing wet tissues (5) , wherein said container main body (1) is made of a paper material and has an air-tightness capable of preventing volatilization of an impregnant impregnated in wet tissues; and said container main body (1) is provided with a pick-up port (6) for picking up wet tissues (5) and a lid body (3) , (15) for opening/closing said pick-up port (6).
2. A packet for wet tissues according to claim 1, wherein said container main body (1) is formed of a laminated sheet composed of a paper material (11) laminated with an air-tight film (12).
3. A packet for wet tissues comprising a container main body (1) for containing wet tissues (5), wherein said container main body (1) is made of a paper material and has an air-tightness capable of preventing volatilization of an impregnant impregnated in wet tissues; and said container main body (1) is mounted with a lid unit part (4), (16) including a base plate (2), (14) having a pick-up port (6) and a lid body (3), (15) mounted on said base plate (2), (14).
4. A packet for wet tissues according to claim 3, wherein said container main body (1) is formed of a laminated sheet composed of a paper material (11) laminated with an air-tight film (12).
5. A packet for wet tissues according to claim 3, wherein said lid unit part (4) is formed of an injection molded product of a plastic material, and said base plate (2) is integrated with said lid body (3).
6. A packet for wet tissues according to claim 3, wherein said lid unit part (16) is composed of an assembly of said base plate (14) and said lid body (15), each of said base plate and said lid body being formed of a plastic molded sheet.
7. A packet for wet tissues according to claim 3, wherein said lid unit part is composed of an assembly of said base plate (14) and said lid body (15), each of said base plate and said lid body being formed of a molded product of a laminated sheet composed of a paper material laminated with an

air-tight film.

8. A packet for wet tissues according to claim 3, wherein said pick-up port (6) provided in said base plate (2), (14) has a narrow width passage (9) imparting a suitable resistance against a force applied to said narrow width passage upon picking-up of the wet tissue.
9. A packet for wet tissues according to claim 3, wherein said lid unit part (4), (16) is mounted on said container main body (1) by heat seal.
10. A packet for wet tissues comprising a container main body (1) and a lid unit part (16) including a lid body (15) and a base plate (14), wherein each of said container main body and said lid unit part is formed of a laminated sheet composed of a paper material laminated with an air-tight film; one end of said lid body (15) is joined to said base plate (14), to form a hinge; said lid unit part (16) is mounted in a window portion (13) opened in said container main body (1) ; and a stacked body (31) of wet tissues is contained in said container main body (1).
11. A packet for wet tissues according to claim 10, wherein said lid unit part (16) is mounted in said window portion (13) of said container main body (1) by heat seal.

Fig. 1

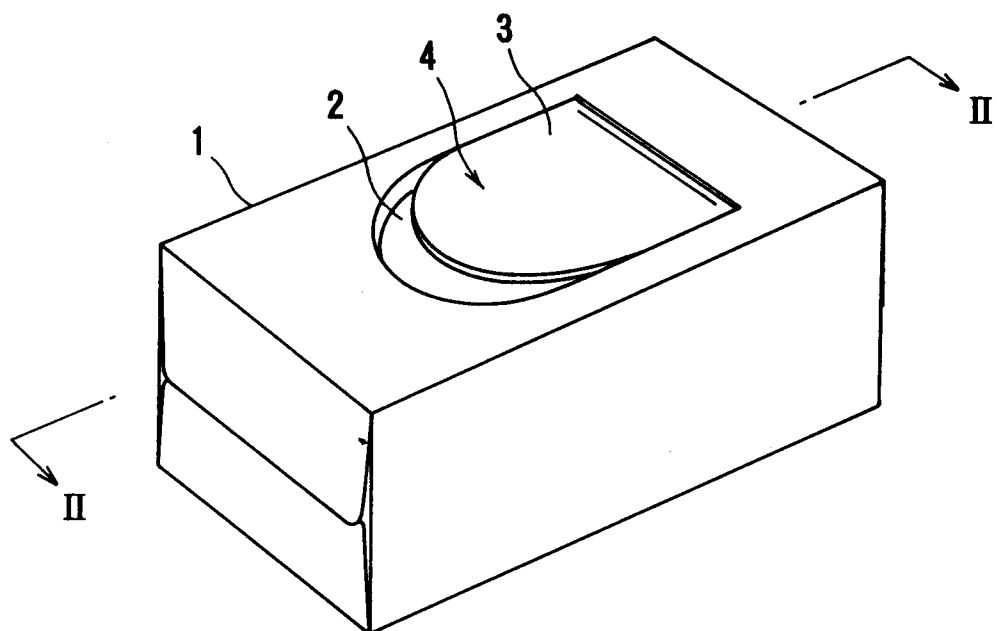


Fig. 2

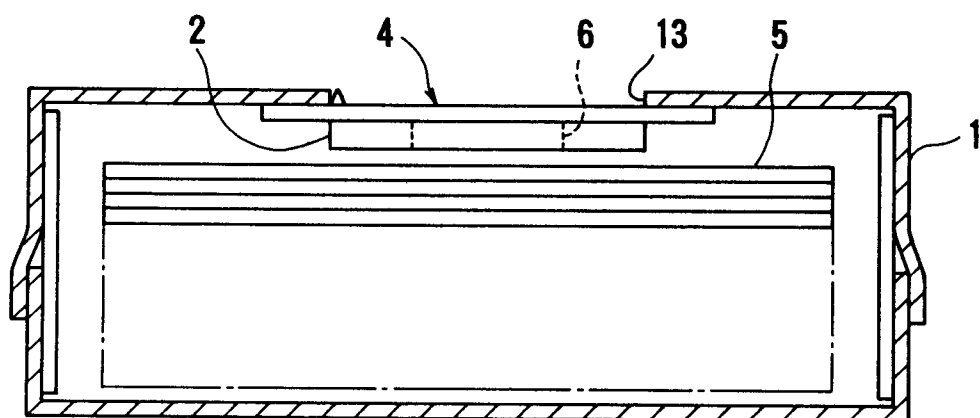


Fig. 3

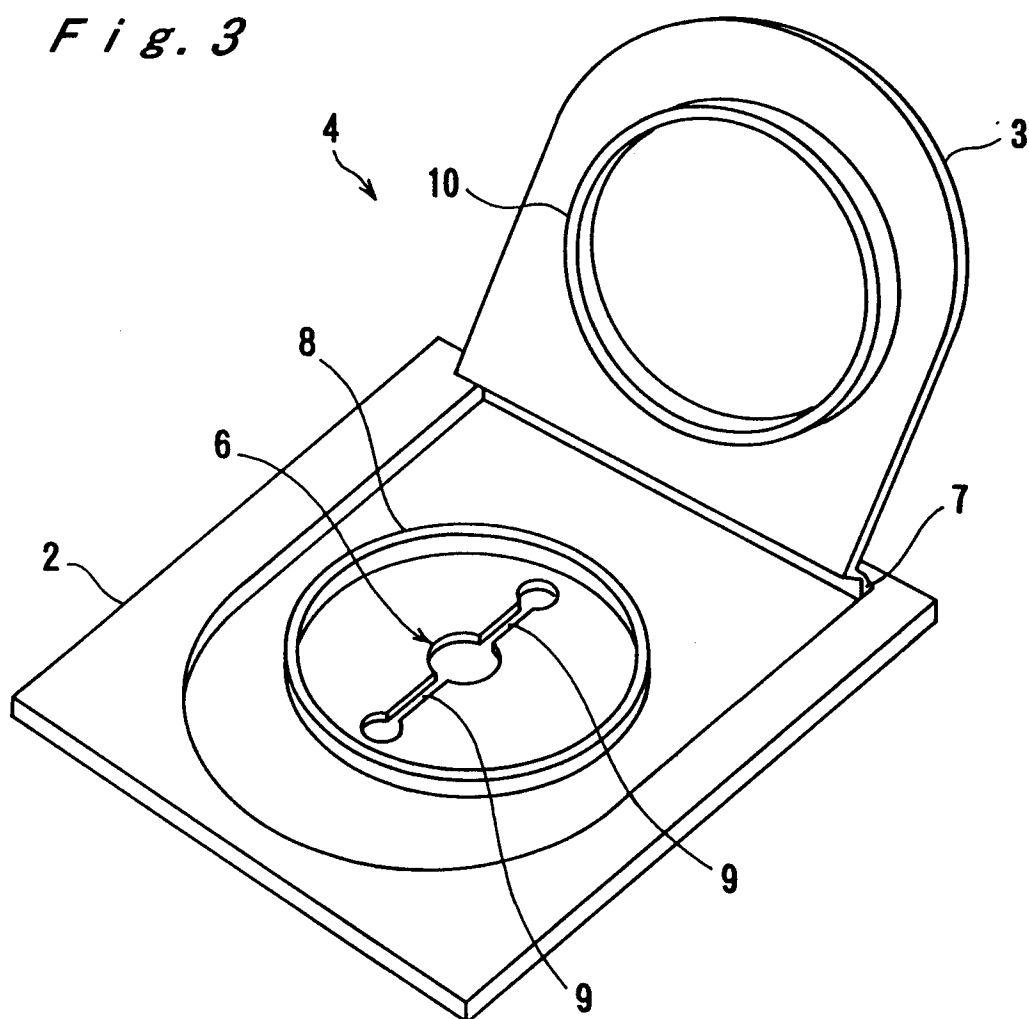


Fig. 4

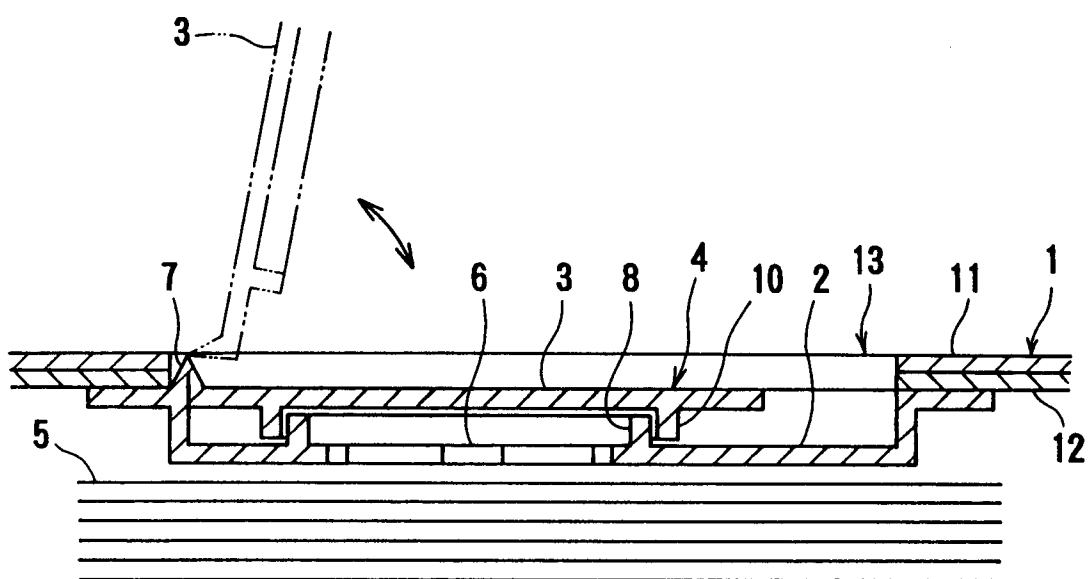


Fig. 5

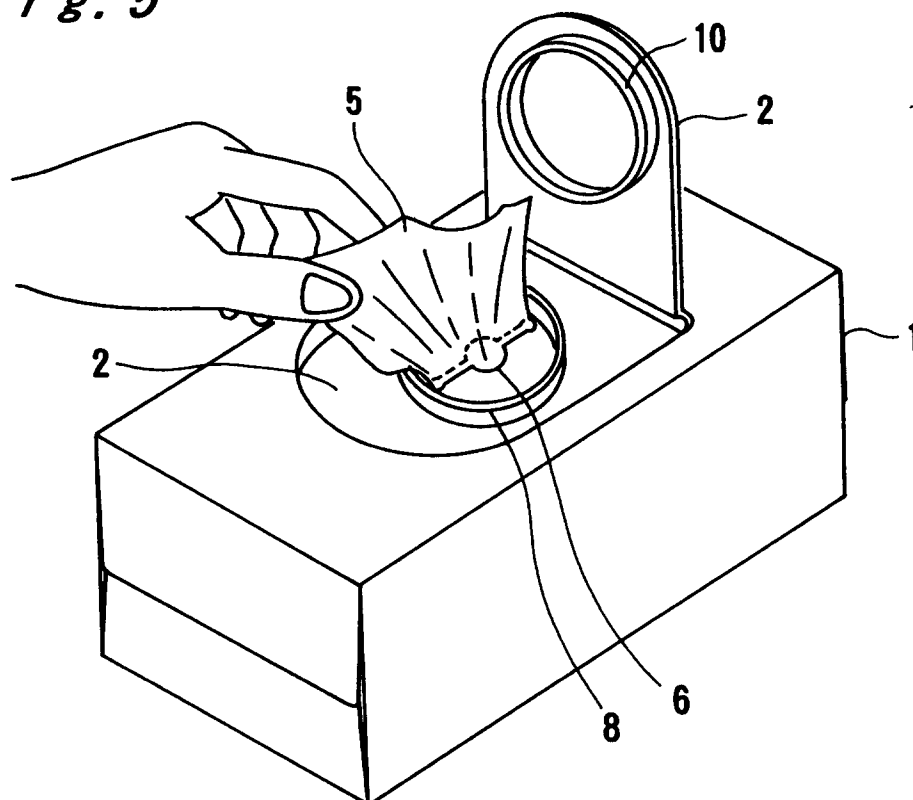


Fig. 6

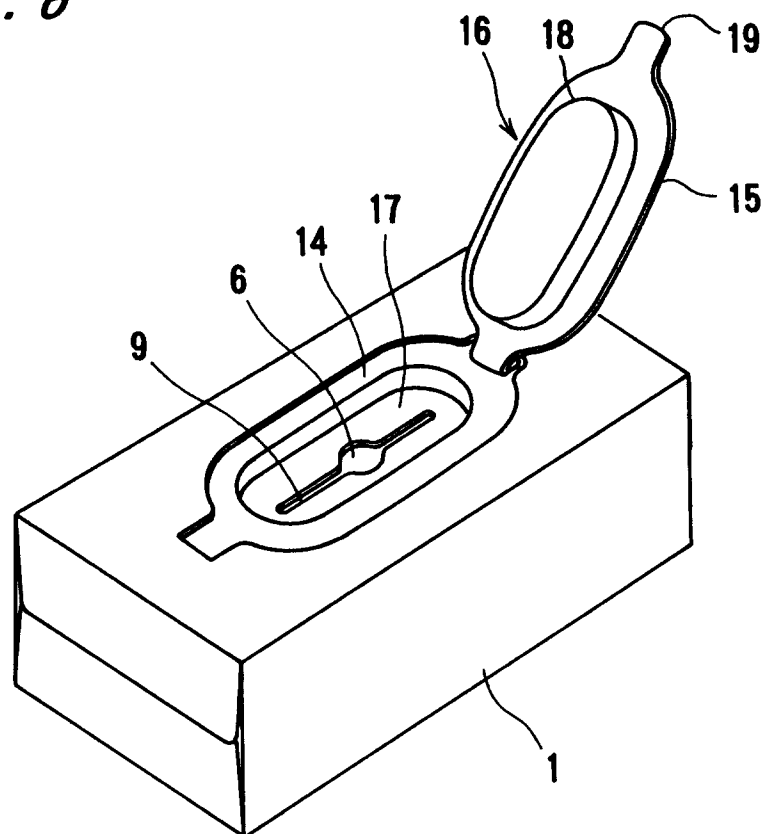


Fig. 7

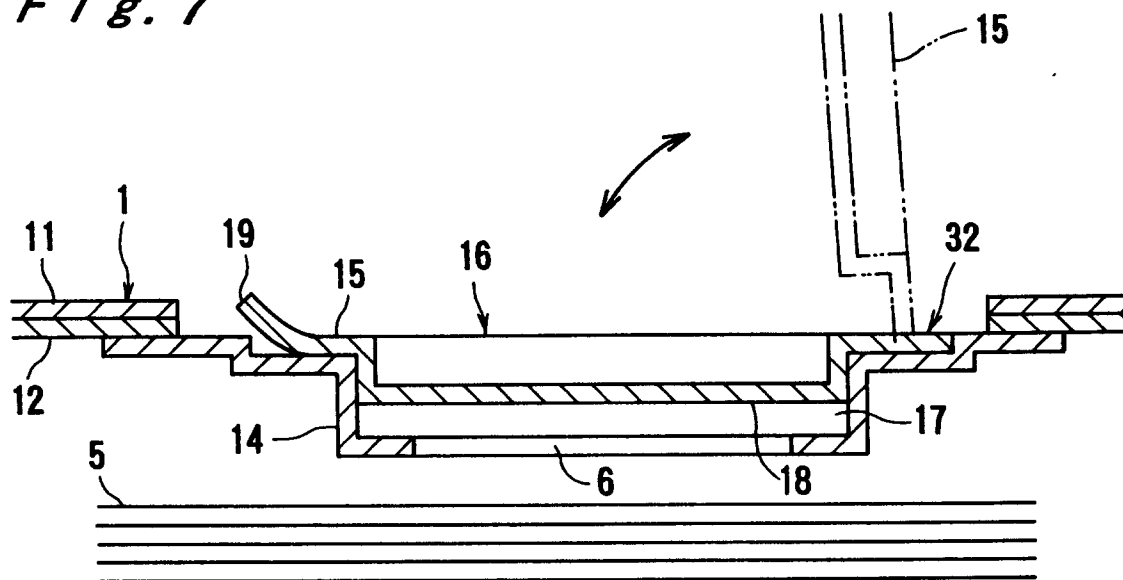


Fig. 8

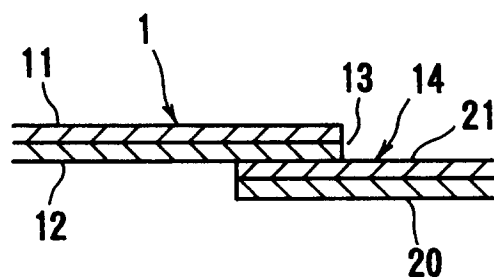


Fig. 9

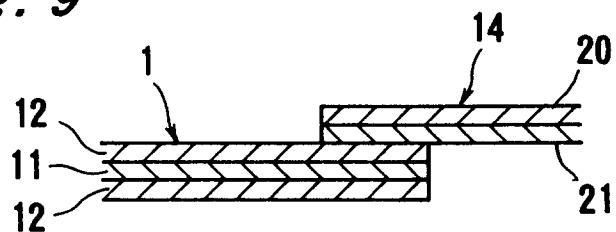


Fig. 10

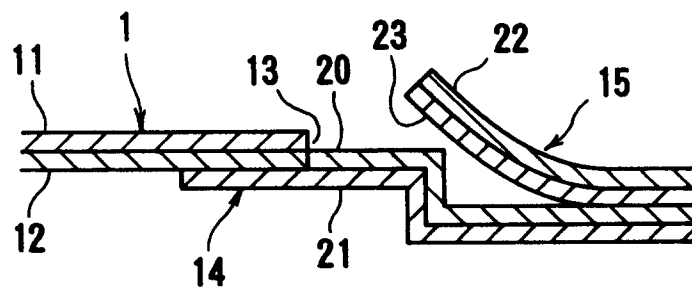


Fig. 11

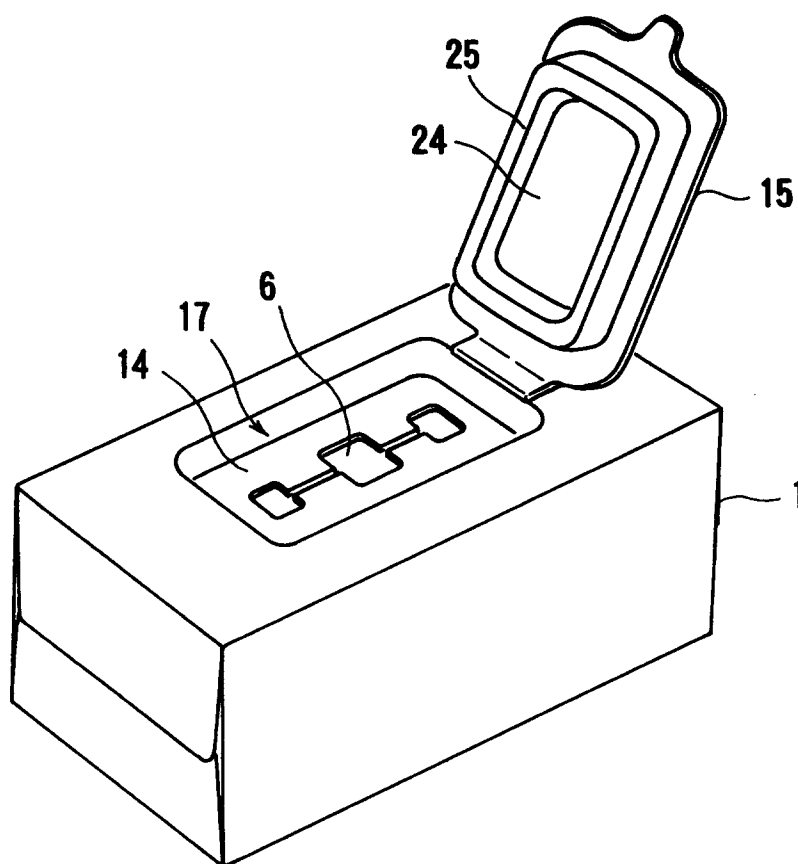


Fig. 12

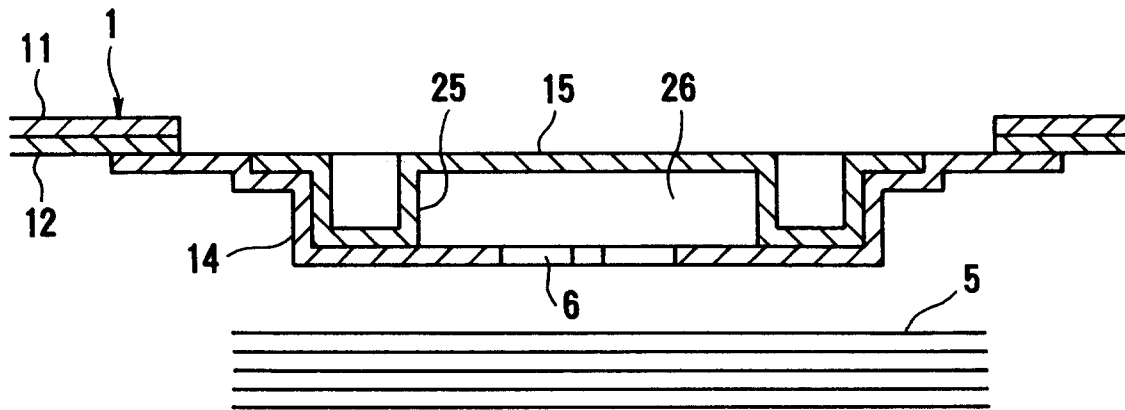


Fig. 13

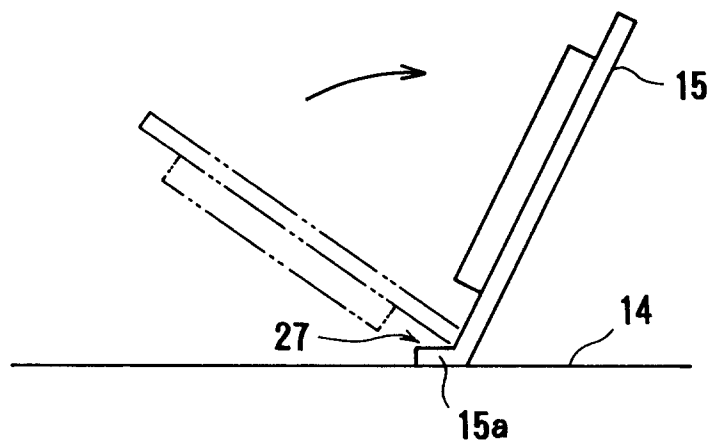


Fig. 14

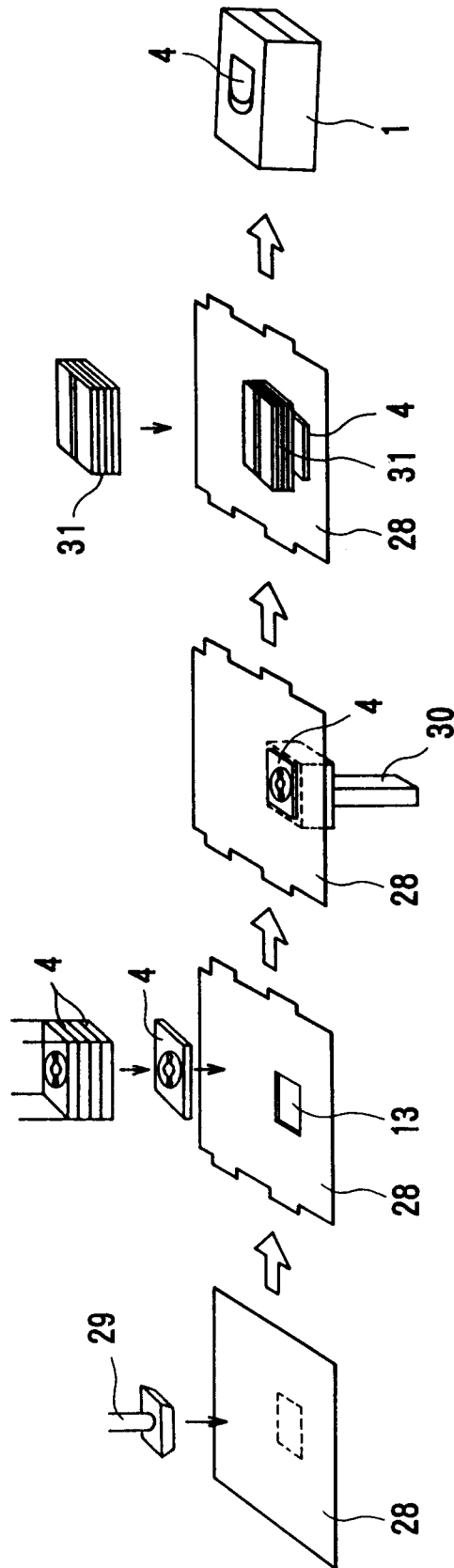


Fig. 15A

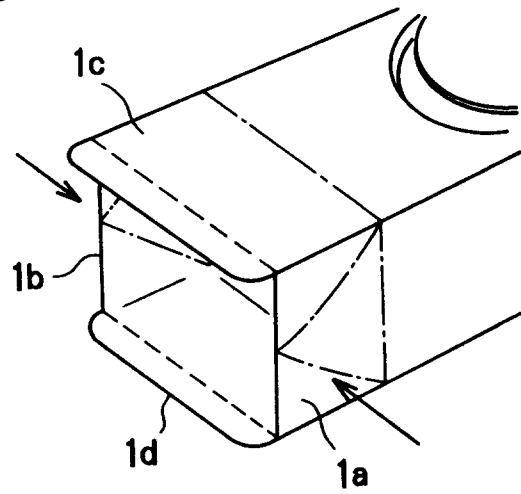


Fig. 15B

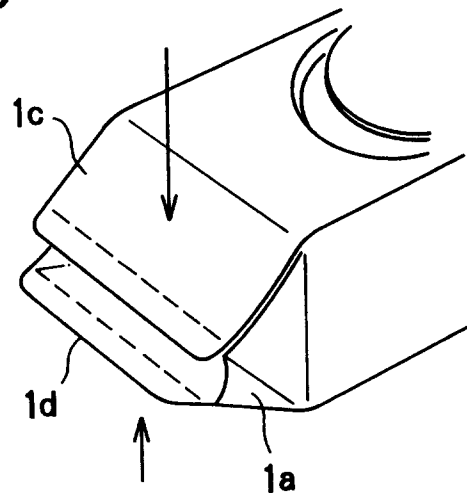
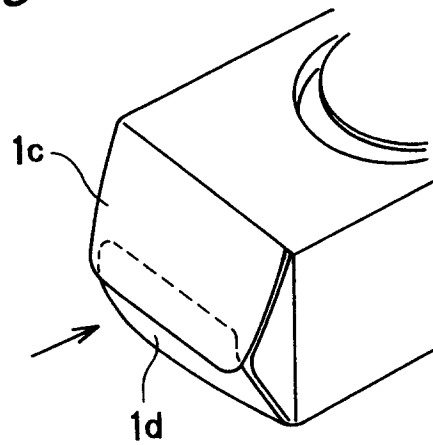


Fig. 15C



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP96/00725

A. CLASSIFICATION OF SUBJECT MATTER		
Int. Cl ⁶ B65D83/08		
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)		
Int. Cl ⁶ B65D83/08		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Jitsuyo Shinan Koho 1910 - 1996		
Kokai Jitsuyo Shinan Koho 1971 - 1995		
Toroku Jitsuyo Shinan Koho 1994 - 1996		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP, 5-7667, U (Kanae K.K.),	1, 2
Y	February 2, 1993 (02. 02. 93)	3, 4, 10
Y	JP, 57-61017, Y2 (Yoshino Kogyosho Co., Ltd.), December 25, 1982 (25. 12. 82), Line 37, column 1 to line 18, column 2	3, 5, 6, 8
Y	JP, 62-251370, A (Teruo Kurokawa), November 2, 1987 (02. 11. 87), Lines 3 to 8, upper left column, page 3 (Family: none)	9, 11
X	JP, 6-45382, B2 (Kenji Nakamura), June 15, 1994 (15. 06. 94), Lines 16 to 20, column 7, lines 31 to 34, column 8 & US, A, 4848575 & DE, C0, 68900692 & EP, A1, 331027 & EP, B1, 331027 & AT, E, 71598 & SG, A, 28694 & HK, A, 62494	1-6, 8, 9, 11
A	JP, 61-51372, U (Fukuyo K.K.), April 7, 1986 (07. 04. 86)	7
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input 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 "E" earlier document 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 June 11, 1996 (11. 06. 96)		Date of mailing of the international search report June 18, 1996 (18. 06. 96)
Name and mailing address of the ISA/ Japanese Patent Office Facsimile No.		Authorized officer Telephone No.

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