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(54) **Garbage bin**

(57) A garbage-containing apparatus includes a base (10), a bin (20) installed on the base (10), a cover (30) installed on the bin (20), a pedal (23) installed on the bin (20) or the base (10), a linking device (12,33) for linking the pedal (23) to the cover (30) and a buffering

device (40) provided between the linking device (12,33) and the base (10) for buffering the cover (30) through the linking device (12,33) in a lowering stroke of the cover (30).

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Description

BACKGROUND OF INVENTION

1. FIELD OF INVENTION

[0001] The present invention relates to garbage bin and, more particularly, to a garbage-containing apparatus that includes an internal bin for containing garbage, an external bin for decoratively concealing the internal bin, a cover for closing the internal and external bins and a buffer for buffering the cover in a lowering stroke.

2. RELATED PRIOR ART

[0002] There are various garbage-containing apparatuses. Some of the garbage-containing apparatuses are simple plastic garbage bins. Such a plastic garbage bin is generally used at an average home. Some other of the garbage-containing apparatuses each include an internal bin for containing garbage, a external bin for decoratively concealing the plastic internal bin and a cover for covering the plastic internal bin and the metal external bin. The internal bin is made of plastic in consideration of cost. The external bin is made of metal for the purposes of decoration. The cover is also made of metal for the purposes of decoration. Such a garbage-containing apparatus that includes two bins is generally used in a hotel. However, such a garbage-containing apparatus must be carefully maneuvered lest the metal cover would bump the metal external bin and makes large noises that are intolerable in a tranquil hotel.

[0003] Disclosed in Taiwanese Patent M240434 is a garbage-containing apparatus including a plastic bin 20 for containing garbage, a metal bin 1 for decoratively concealing the plastic bin 20, two covers 4 for closing the metal bin 1, a pedal 14 and a rod 2 for linking the pedal 14 to the covers 4. As the pedal 14 is trodden, the covers 4 are lifted. When the pedal 14 is released, the covers 4 are lowered. A cushion 5 is used to cushion the lowering stroke of the covers 4. The cushion 5 is a hydraulic or air cylinder provided between the rod 2 and a bracket 16 secured to the internal side of the metal bin 1. The hydraulic or air cylinder 5 is however heavy, bulky, complicated and expensive. Moreover, the hydraulic or air cylinder 5 requires careful maneuvering and intense maintenance or it will soon be damaged.

[0004] The present invention is therefore intended to obviate or at least alleviate the problems encountered in prior art.

SUMMARY OF INVENTION

[0005] According to the present invention, a garbage-containing apparatus includes a base, a bin installed on the base, a cover installed on the bin, a pedal installed on the bin or the base, a linking device for linking the pedal to the cover and a buffering device provided be-

tween the linking device and the base for buffering the cover through the linking device in a lowering stroke of the cover.

[0006] An advantage of the garbage-containing apparatus of the present invention is its light total weight since the buffer adds only a little to the total weight.

[0007] Another advantage of the garbage-containing apparatus of the present invention is its low total cost since the buffer adds only a little to the total cost and it requires little reengineering to incorporate the buffer.

[0008] Another advantage of the garbage-containing apparatus of the present invention is its simple structure.

[0009] Another advantage of the garbage-containing apparatus of the present invention is durability.

[0010] Another advantage of the garbage-containing apparatus of the present invention a low cost in use for not requiring intense maintenance.

[0011] Other advantages and features of the present invention will become apparent from the following description referring to the drawings.

BRIEF DESCRIPTION OF DRAWINGS

[0012] The present invention will be described through detailed illustration of the preferred embodiment referring to the drawings.

[0013] Fig. 1 is a perspective view of a garbage-containing apparatus according to the preferred embodiment of the present invention.

[0014] Fig. 2 is a cross-sectional view of the garbage-containing apparatus shown in Fig. 1.

[0015] Fig. 3 is another cross-sectional view of the garbage-containing apparatus shown in Fig. 2.

[0016] Fig. 4 is a cross-sectional view of the garbage-containing apparatus in another position than shown in Fig. 2.

[0017] Fig. 5 is another cross-sectional view of the garbage-containing apparatus shown in Fig. 4.

[0018] Fig. 6 is a cross-sectional view of the garbage-containing apparatus in another position than shown in Fig. 4.

[0019] Fig. 7 is another cross-sectional view of the garbage-containing apparatus shown in Fig. 6.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0020] Referring to Figs. 1 and 2, there is shown a garbage-containing apparatus according to the preferred embodiment of the present invention.

[0021] The garbage-containing apparatus includes a base 10 for installation on the ground or a floor, a plastic bin 22 for containing garbage, a metal bin 20 for decoratively concealing the plastic bin 22, a metal cover 30 for covering the metal bin 20 and the plastic bin 22, a pedal 23 installed on the metal bin 22 or the base 10 and a linking device for linking the pedal 23 to the metal cover 30. The metal bin 20 defines an opening 21. As the pedal

23 is trodden, the metal cover 30 is lifted. As the pedal 23 is released, the metal cover 30 is lowered. The garbage-containing apparatus includes a buffering device for buffering the metal cover 30 during the lowering stroke.

[0022] The base 10 is formed with a platform 11 and a socket 13.

[0023] The linking device includes a crank shaft 12 and a rod 33. The crank shaft 12 is positioned horizontally on the platform 11. The crank shaft 12 includes a first crank at an end and a second crank at an opposite end. The first crank is connected to the pedal 23.

[0024] The rod 33 is positioned vertically. The rod 33 includes a lower end and an upper end. The lower end of the rod 33 is connected to the second crank.

[0025] The metal cover 30 includes a lug 31 pivotally connected to a lug 24 installed on the metal bin 20. The metal cover 30 includes an extension 32 extended from the lug 31. The extension 32 is connected to the upper end of the rod 33.

[0026] The buffering device includes a plate 14 secured to the second crank and a buffer 40 inserted in the socket 13. The buffer 40 includes a tongue 41 extended from the interior thereof and retractable into the interior in an elastic manner. The tongue 41 comes into contact with the plate 14 during the lowering stroke of the metal cover 30. The buffer 40 is an inexpensive element that is often used in interior decoration. The buffer 40 may be a hydraulic or pneumatic buffer. In the preferred embodiment, the buffer 40 is a so-called German buffer.

[0027] Referring to Figs. 2 and 3, the pedal 23 is trodden so that the crank shaft 12 is rotated. The rod 33 is lifted and so is the metal cover 30. The plate 14 is removed from the tongue of the buffer 40. The tongue 41 of the buffer 40 is extended.

[0028] Referring to Figs. 4 and 5, the pedal 23 is released to allow the lowering of the metal cover 30 subject to its own weight. The rod 33 is lowered and so is the mount 34. Hence, the second crank is pivoted downwards so that the plate 14 is pivoted downwards. The plate 14 comes into contact with the tongue 41 of the buffer 40. The tongue 41 is retracted into the buffer 40 slowly for buffering the metal cover 30 through the rod 33 during the lowering stroke.

[0029] Referring to Figs. 6 and 7, the metal cover 30 is finally lowered, and the metal bin 20 and the plastic bin 22 are finally closed.

[0030] The garbage-containing apparatus of the present invention exhibits several advantages. Firstly, it is light in weight since the buffer adds only a little to its total weight. Secondly, it is inexpensive since the buffer adds only a little to the total cost and it requires little reengineering to incorporate the buffer. Thirdly, it is simple in structure. Fourthly, it is durable since the buffer is durable. Fifthly, it can be used at a low cost for not requiring intense maintenance.

[0031] The present invention has been described via the detailed description of the preferred embodiment.

Those skilled in the art can derive variations from the preferred embodiment without departing from the scope of the present invention. Therefore, the preferred embodiment shall not limit the scope of the present invention defined in the claims.

Claims

1. A garbage-containing apparatus comprising:
 - a base (10);
 - a bin (20) installed on the base;
 - a cover (30) installed on the bin;
 - a pedal (23) installed on one of the bin and the base;
 - a linking device for linking the pedal to the cover; and
 - a buffering device provided between the linking device and the base for buffering the cover through the linking device in a lowering stroke of the cover.
2. The garbage-containing apparatus according to claim 1 wherein the linking device comprises a crank shaft (12) connected to the pedal and a rod (33) provided between the crank shaft and the cover.
3. The garbage-containing apparatus according to claim 2 wherein the buffering device comprises a plate (14) secured to the crank shaft and a buffer (40) installed on the base for buffering the plate.
4. The garbage-containing apparatus according to claim 3 wherein buffer comprises a tongue (41) for contact with the plate.
5. The garbage-containing apparatus according to claim 3 wherein the base comprises a platform (11) for supporting the crank shaft and a socket (13) formed on the platform for receiving the buffer.
6. The garbage-containing apparatus according to claim 2 wherein the cover comprises an extension (32) connected to the rod.
7. The garbage-containing apparatus according to claim 1 wherein the bin is made of metal.
8. The garbage-containing apparatus according to claim 7 wherein the cover is made of metal.
9. The garbage-containing apparatus according to claim 7 comprising a plastic bin (22) concealed in the metal bin so that the plastic bin is used to contain garbage while the metal bin is used for decoration.
10. The garbage-containing apparatus according to

claim 1 wherein the pedal is installed on the bin.

11. The garbage-containing apparatus according to claim 1 wherein the buffer is a hydraulic buffer.

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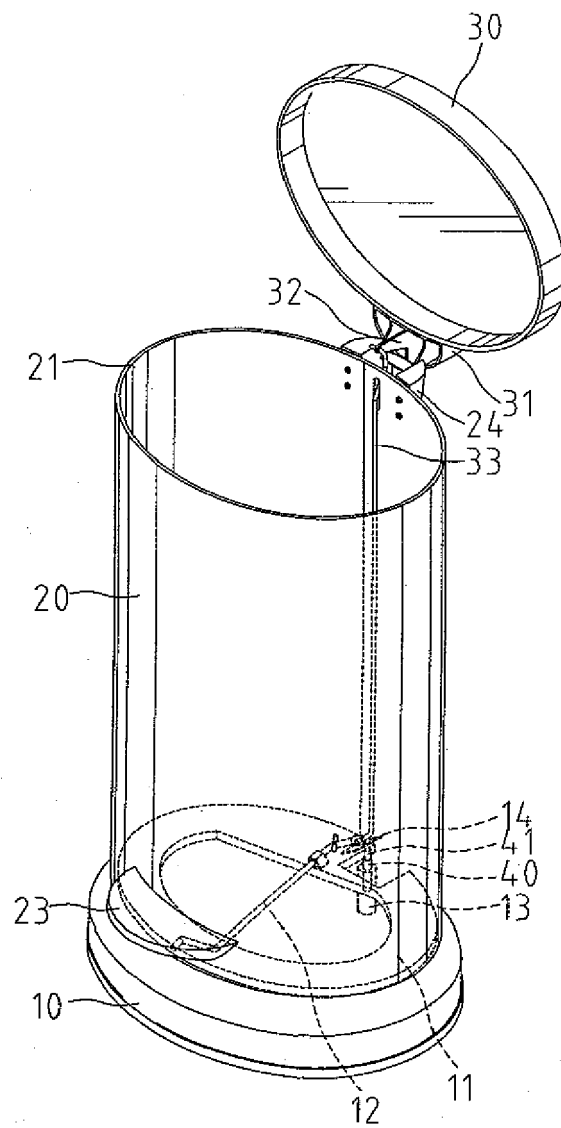


Fig.1

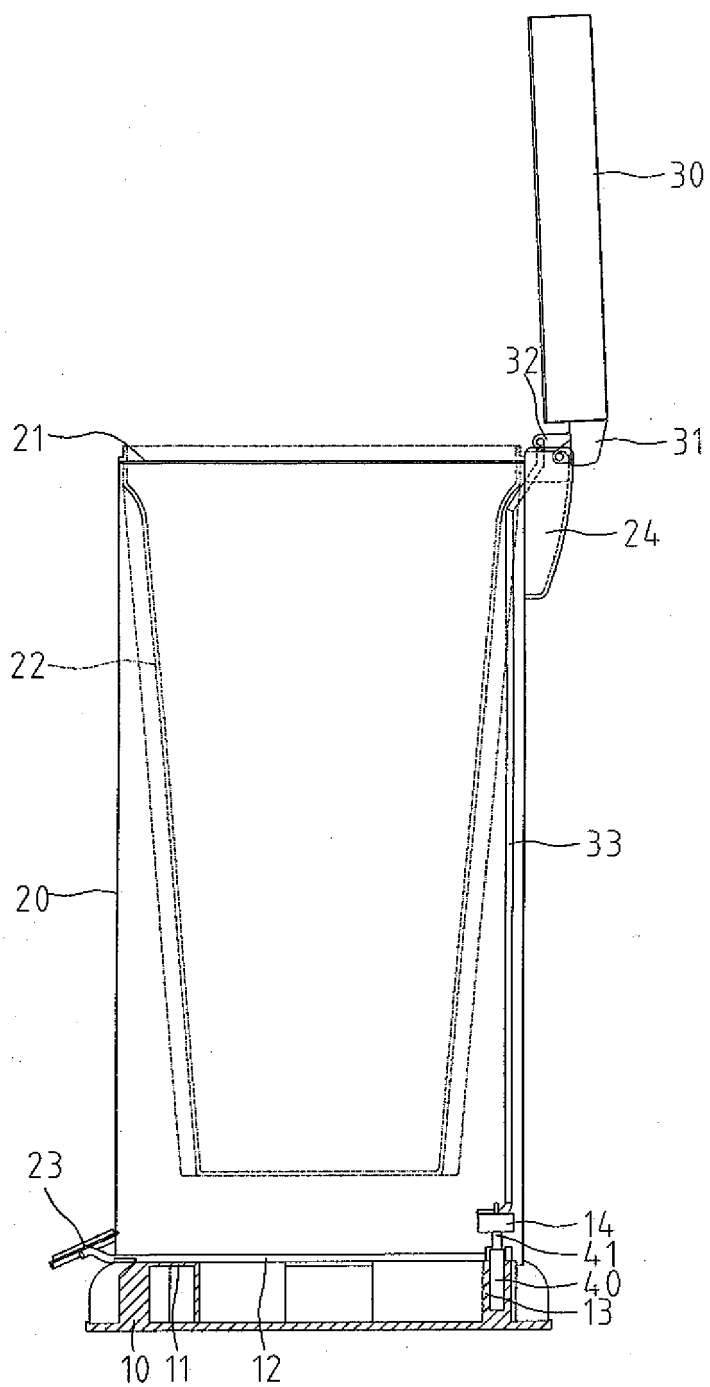


Fig.2

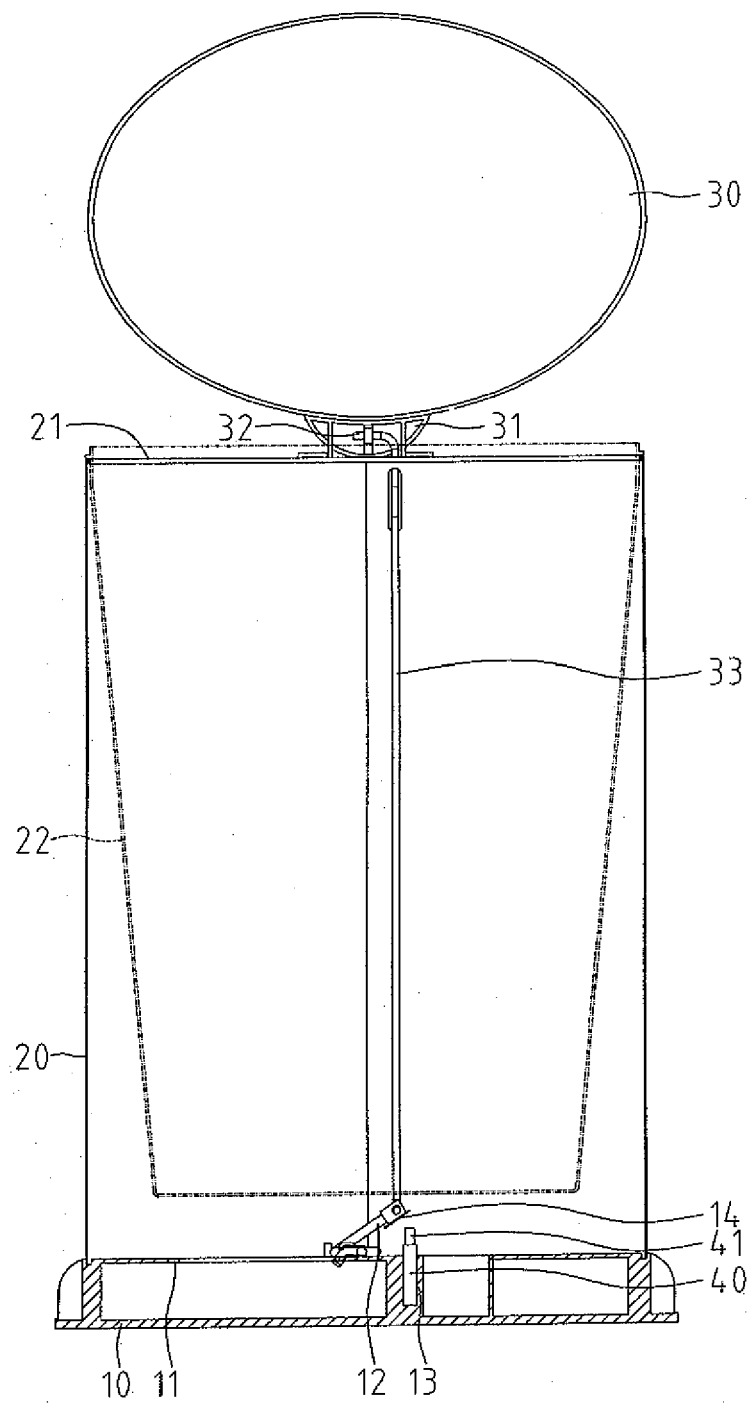


Fig. 3

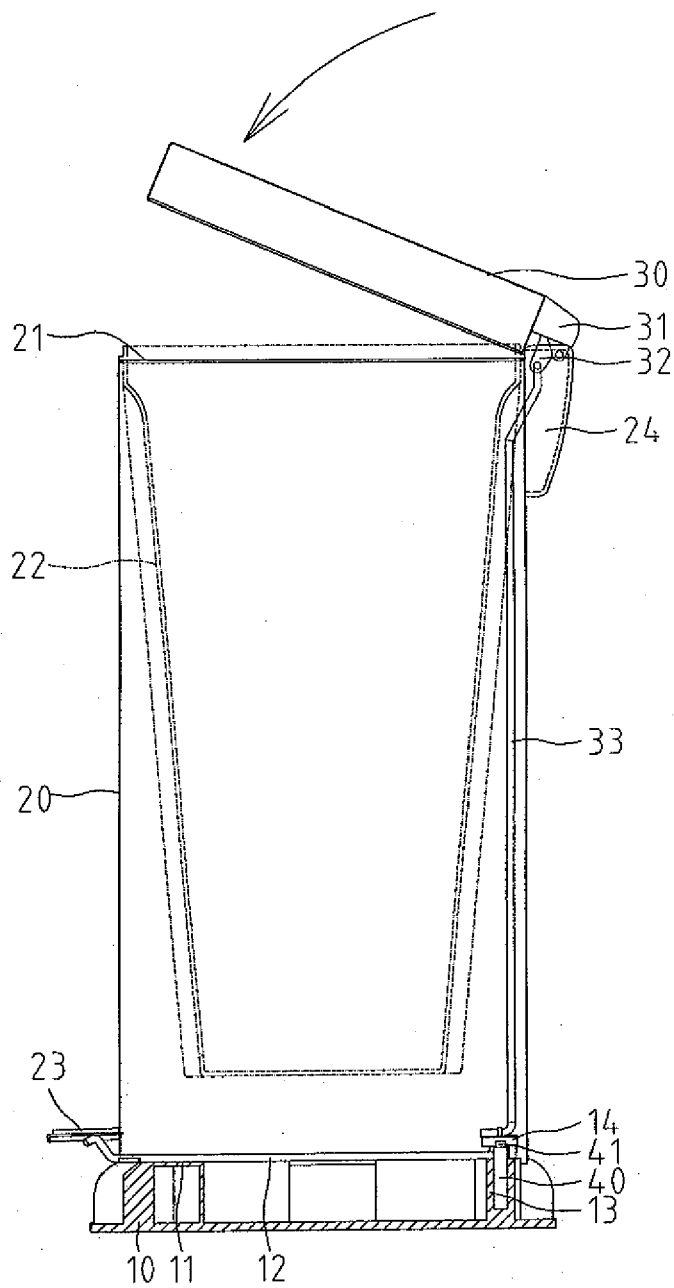


Fig.4

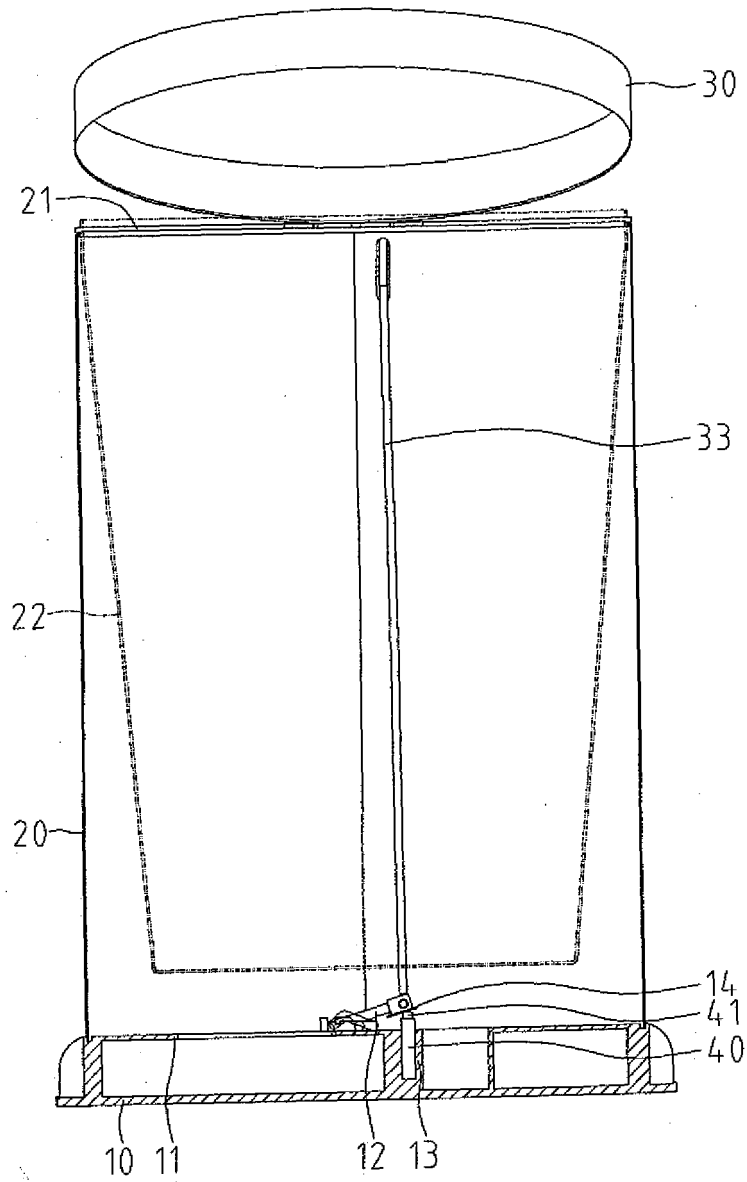


Fig.5

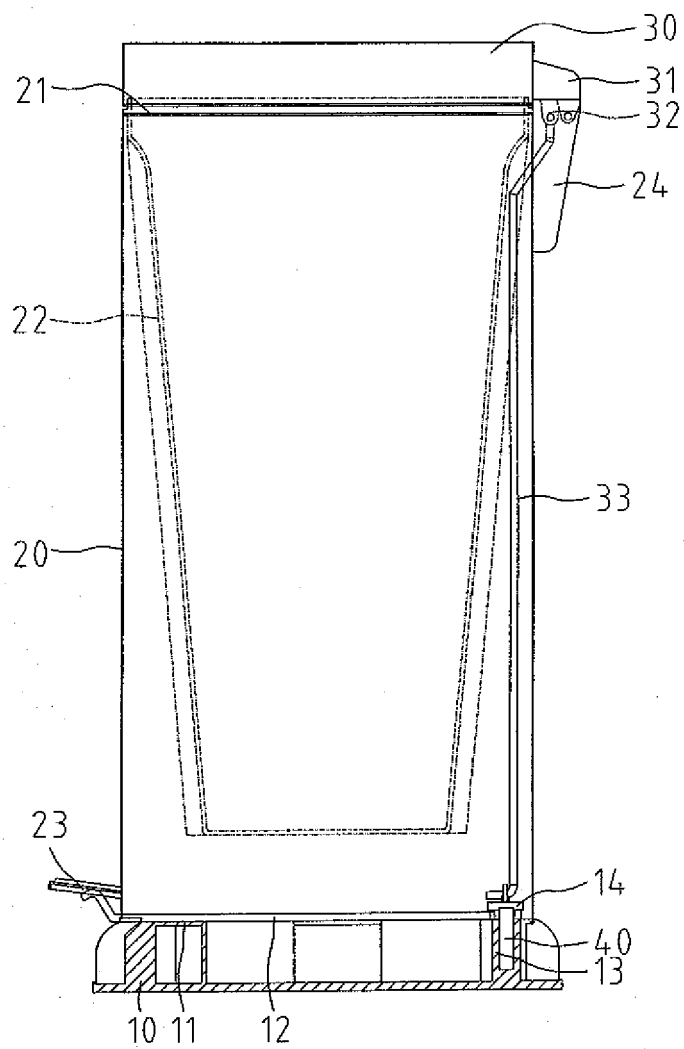


Fig.6

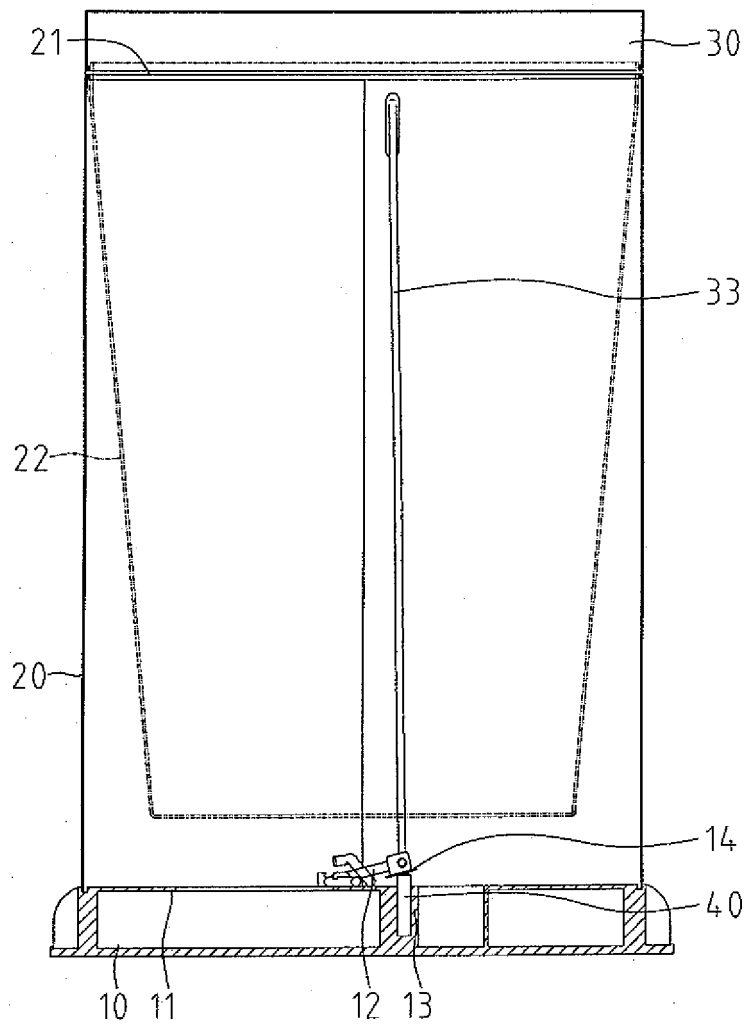


Fig. 7



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 06 11 9697

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 103 06 485 A (SHU-PEI HUANG ET AL.) 26 August 2004 (2004-08-26)	1,2,10	INV. B65F1/08
Y	* paragraph [0013] - paragraph [0022] * * figures 1-6 *	3-9,11	B65F1/16
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A	* page 3, line 22 - page 5, line 12 * * figures 1,2 *	1,10	
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A	* paragraph [0014] - paragraph [0024] * * figures 1-8 *	3,5,7-9	
X	----- DE 200 03 492 U (TIN-CHOU WANG) 8 June 2000 (2000-06-08)	1,2,6,10	TECHNICAL FIELDS SEARCHED (IPC)
A	* page 4, line 5 - page 6, line 25 * * figures 1-3 *	3-5,7-9	B65F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 20 December 2006	Examiner Smolders, Rob
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 06 11 9697

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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20-12-2006

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