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(54) **Garbage bin**

(57) A garbage bin includes a base (10). A barrel (20) is installed on the base (10) and defines two apertures (21). A cover (30) is pivotally installed on the barrel (20). A pedal (40) is pivotally installed on the barrel (20) and includes an external member (41) and an internal member (42). The external member (41) of the pedal (40) is put outside the barrel (20) and formed with two

ends (43) inserted in the barrel (20) through the apertures (21). The internal member (42) of the pedal (40) is put in the barrel (20) and formed with two ends connected with the ends (43) of the external member (41). Linkage (50) is provided between the cover (30) and the internal member (42) of the pedal (40).

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Description**Background of Invention****Field of Invention**

[0001] The present invention relates to a garbage bin and, more particularly, to a pedal of a garbage bin.

Related Prior Art

[0002] Referring to Figure 9, a conventional garbage bin includes a barrel 110 that includes a rear half 111 and a front half 111. Two connecting assemblies 200 are used to hold the halves 111 together. A bottom 120 is provided below the barrel 110. A semi-circular protector 130 is installed on the upper edge of each half 111. A cover 140 is pivotally installed on the barrel 110. An arched pedal 160 includes an intermediate portion formed between two terminal sections. A shaft 161 transversely extends from each terminal section of the arched pedal 160. The rear half 111 defines two apertures 115 for receiving the shafts 161. The front half 111 defines two slots 116 for encompassing the pivotal movement of the terminal sections of the arched pedal 160. Linkage 150 is used to connect the cover 140 with the pedal 160. A pad 170 is attached to the barrel 110 below the arched pedal 160. The slots 116 however entail degradation of the rigidity of the barrel 110.

[0003] The present invention is therefore intended to obviate or at least alleviate the problems encountered in prior art.

Summary of Invention

[0004] According to the present invention, a garbage bin includes a base. A barrel is installed on the base and defines two apertures. A cover is pivotally installed on the barrel. A pedal is pivotally installed on the barrel and includes an external member and an internal member. The external member of the pedal is put outside the barrel and formed with two ends inserted in the barrel through the apertures. The internal member of the pedal is put in the barrel and formed with two ends connected with the ends of the external member. Linkage is provided between the cover and the internal member of the pedal.

[0005] The primary advantage of the garbage bin according to the present invention is that the apertures cause little degradation of the strength of the barrel.

[0006] Other objects, advantages and novel features of the present invention will become more apparent from the following detailed description referring to the attached drawings.

Brief Description of Drawings

[0007] The present invention will be described via de-

tailed illustration of embodiments referring to the drawings.

Figure 1 is a perspective view of a garbage bin according to a first embodiment of the present invention.

Figure 2 is an exploded view of the garbage bin shown in Figure 1.

Figure 3 is a partial view of the garbage bin shown in Figure 1.

Figure 4 is a cross-sectional view of the garbage bin shown in Figure 1.

Figure 5 is similar to Figure 4 but shows a lid lifted.

Figure 6 is a perspective view of a garbage bin according to a second embodiment of the present invention.

Figure 7 is a perspective view of a garbage bin according to a third embodiment of the present invention.

Figure 8 is a perspective view of a garbage bin according to a fourth embodiment of the present invention.

Figure 9 is an exploded view of a conventional garbage bin.

Detailed Description of Embodiments

[0008] Figures 1 to 5 show a garbage bin according to a first embodiment of the present invention.

[0009] Referring to Figure 1, the garbage bin includes a base 10, a barrel 20 installed on the base 10, a cover 30 pivotally installed on an upper portion of the barrel 20 and a pedal pivotally installed on a lower portion of the barrel 20.

[0010] Referring to Figures 2 and 3, linkage 50 is used to connect the cover 30 with the pedal 40 so that the cover 30 can be lifted through treading the pedal 40. The linkage 50 includes a rod 51 and a shaft 52. The rod 51 includes an upper end 53 connected with the cover 30 and a lower end 54. The shaft 52 includes a transverse rear end 55 connected with the lower end 54 of the rod 51 and a transverse front end 56 connected with the pedal 40.

[0011] A bearing is provided on the base 10 for the shaft 52. The bearing includes a hook 11 for exerting a downward force on the shaft 52 and two abutments 12 for exerting upward forces on the shaft 52.

[0012] The cover 30 is pivotally installed on the upper portion of the barrel 20 by means of a hinge. The hinge includes two ears 31 secured to the barrel 20, two ears

33 formed on the cover 30 and a C-clip 32 with two ends inserted in the ears 31 and 33. A lug 34 is formed on the cover 30 in order to receive the upper end 53 of the rod 51.

[0013] The barrel 20 defines two apertures 21 in the lower portion. Two bearings 23 are fit in the apertures 21. Each bearing 23 defines an aperture 24.

[0014] The pedal 40 includes a semi-circular external member 41 put in the exterior of the barrel 20 and a semi-circular internal member 42 put in the barrel 20. The semi-circular external member 41 can be trodden. The semi-circular member 42 is in contact with the front transverse end 56 of the shaft 52. The semi-circular external member 41 includes two transverse ends 43 inserted into the barrel 20 through the apertures 24 defined in the bearings 23. Each transverse end 43 of the semi-circular external member 41 is connected with an end of the semi-circular internal member 42 by means of an L-shaped connector 44 and screws 45.

[0015] Obviously, the apertures 21 cause less degradation to the strength of the barrel 20 than the slots 116 to the barrel 110 of the conventional garbage bin discussed in Related Prior Art referring to Figure 9.

[0016] Referring to Figures 4 and 5, the cover 30 can be lifted via treading the pedal 40 due to connection with each other by means of the linkage 50.

[0017] Figure 6 shows a garbage bin according to a second embodiment of the present invention. The second embodiment is similar to the first embodiment except for including a barrel 25 that includes a small lower end and a large upper end.

[0018] Figure 7 shows a garbage bin according to a third embodiment of the present invention. The third embodiment is similar to the first embodiment except for including an anti-slip element 70 installed on the semi-circular external member 41.

[0019] Figure 8 shows a garbage bin according to a fourth embodiment of the present invention. The fourth embodiment is similar to the third embodiment except for including another anti-slip element 80 than the anti-slip element 70.

[0020] The present invention has been described via detailed illustration of some embodiments. Those skilled in the art can derive variations from the embodiments without departing from the scope of the present invention. Therefore, the embodiments shall not limit the scope of the present invention defined in the claims.

Claims

1. A garbage bin comprising:

- a base (10);
- a barrel (20) that is installed on the base (10) and defines two apertures (21);
- a cover (30) pivotally installed on the barrel (20);

a pedal (40) that is pivotally installed on the barrel (20) and comprises:

- an external member (41) put outside the barrel (20) and formed with two ends (43) inserted in the barrel (20) through the apertures (21);
- an internal member (42) put in the barrel (20) and formed with two ends connected with the ends of the external member; and

linkage (50) provided between the cover (30) and the internal member (42) of the pedal (40).

2. The garbage bin according to claim 1 wherein the external member (41) comprises a semi-circular structure.
3. The garbage bin according to claim 1 wherein the internal member (42) comprises a semi-circular structure.
4. The garbage bin according to claim 1 wherein the pedal (40) comprises two connectors for connecting the ends of the external member (41) with the ends of the internal member (42).
5. The garbage bin according to claim 1 comprising two bearings (23) fit in the apertures (21) for bearing the ends (43) of the external member (41) of the pedal (40).
6. The garbage bin according to claim 1 wherein the connectors (44) comprises an L-shaped configuration.
7. The garbage bin according to claim 1 comprising screws (45) driven in each of the connectors (44), corresponding one of the ends (43) of the external member (41) and corresponding one of the ends of the internal member (42).
8. The garbage bin according to claim 1 comprising an anti-slip element (70) installed on the external member (41) of the pedal (40).
9. The garbage bin according to claim 1 wherein the linkage (50) comprises:

- a rod (51) comprising an upper end (53) connected with the cover (30) and a lower end (54); and
- a shaft (52) comprising a transverse rear end (55) connected with the lower end (54) of the rod (51) and a transverse front end (56) in contact with the internal member (42) of the pedal (40).

10. The garbage bin according to claim 1 comprising a hinge for pivotally connecting the cover (30) with the barrel (20).

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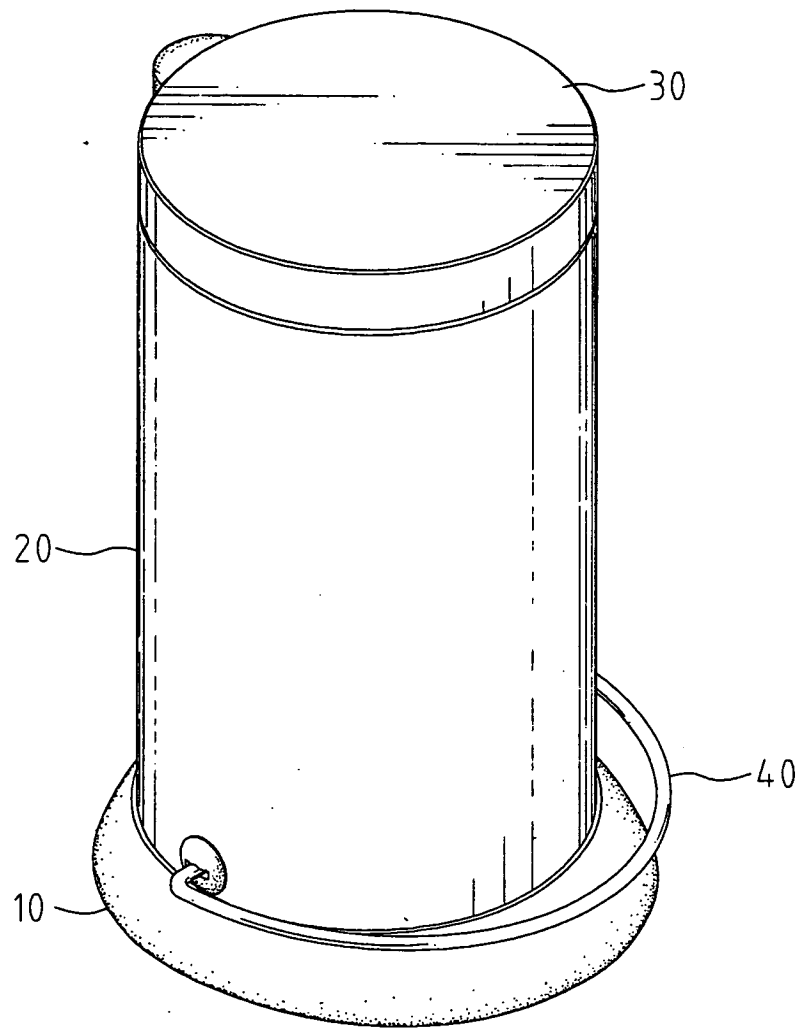


Fig. 1

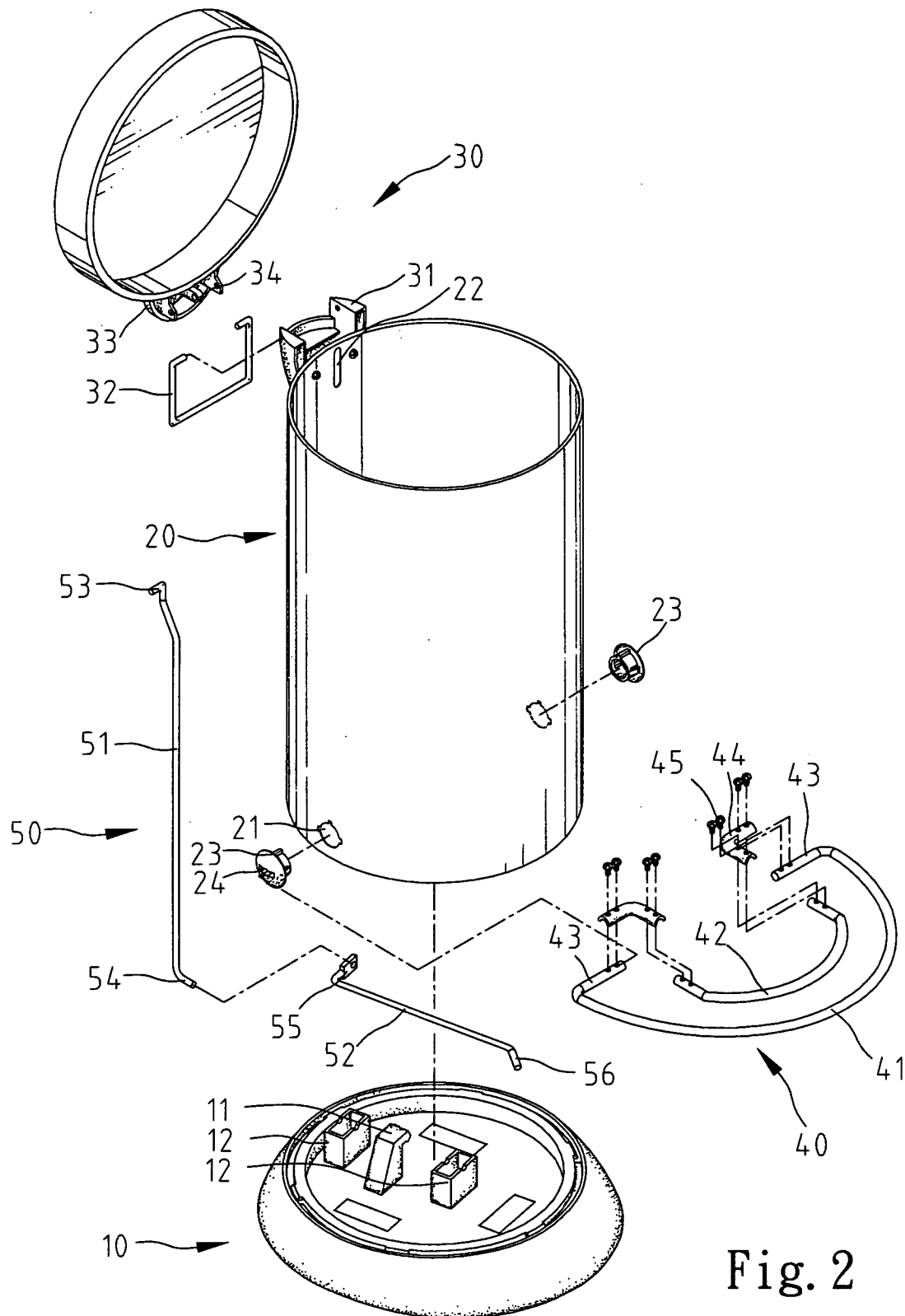


Fig. 2

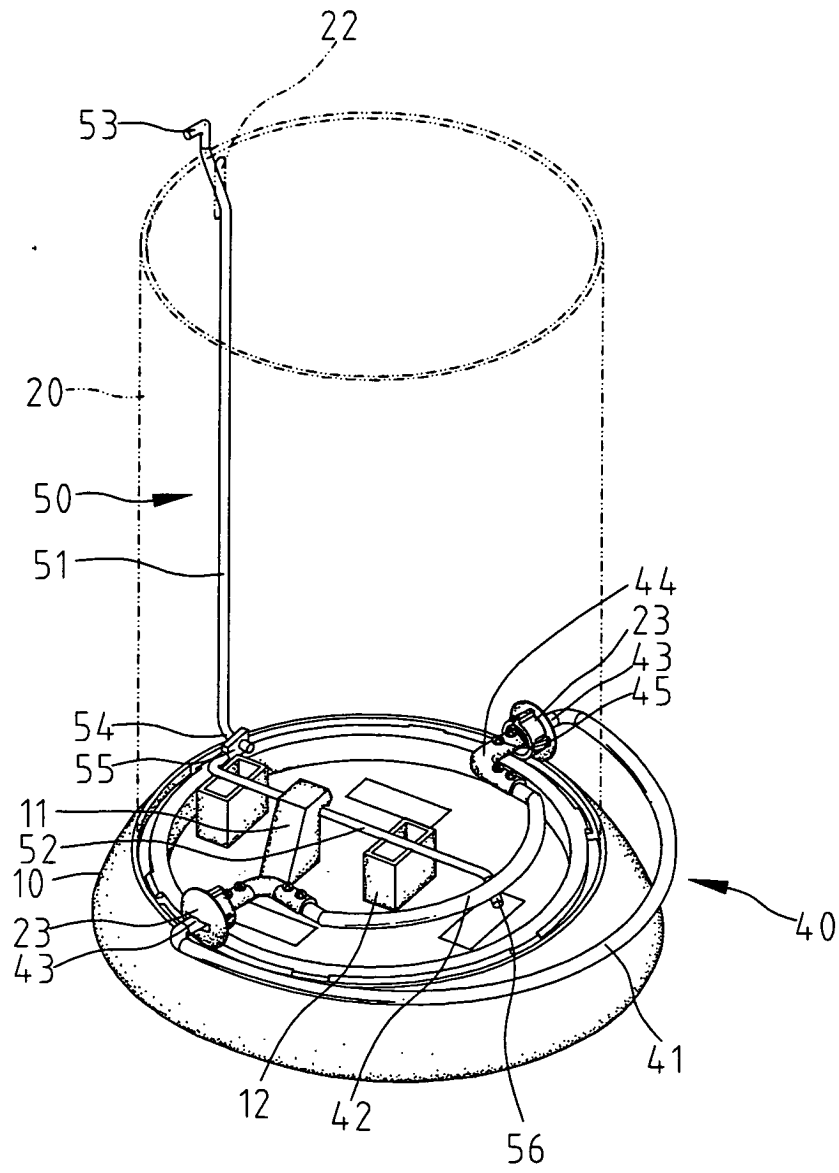


Fig. 3

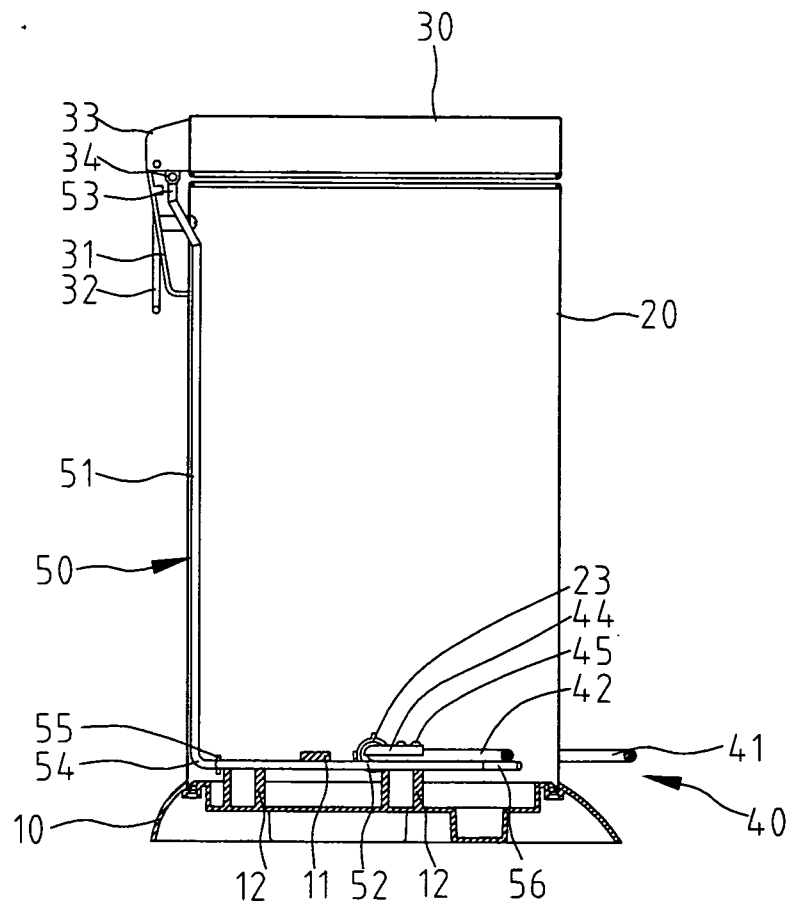


Fig. 4

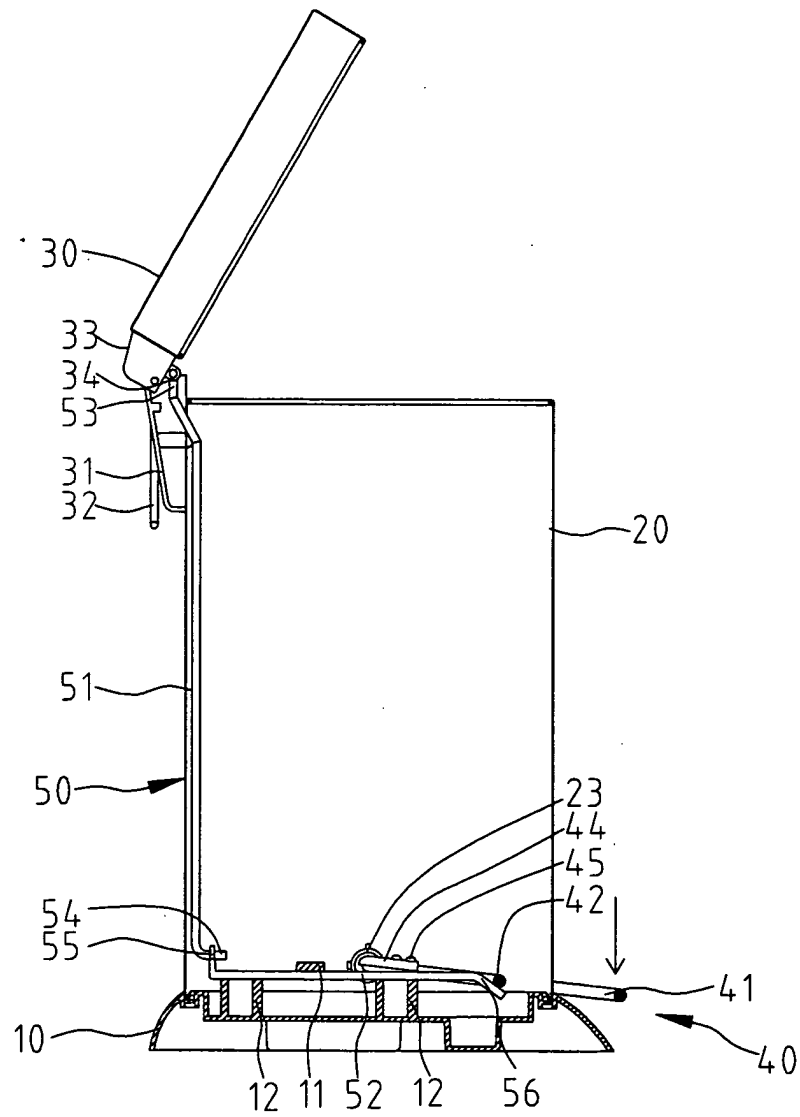


Fig. 5

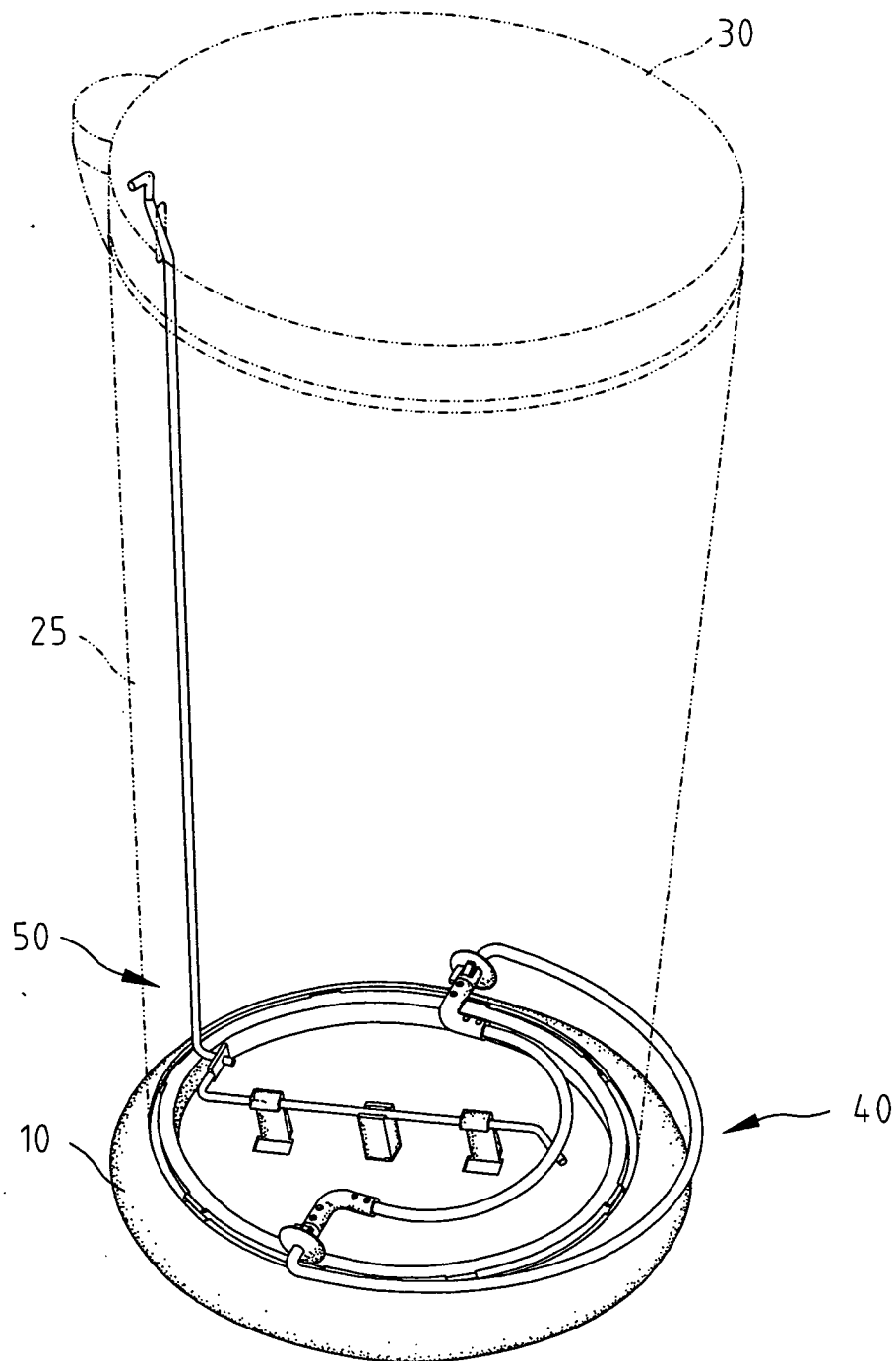


Fig. 6

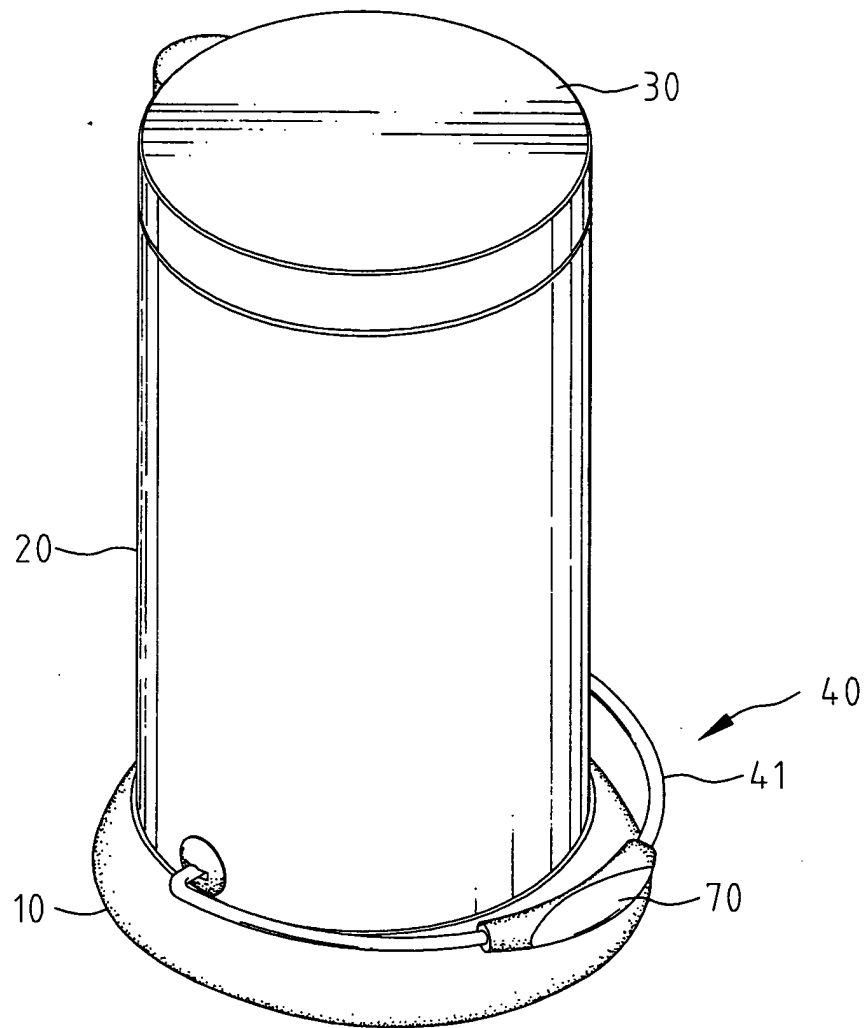


Fig. 7

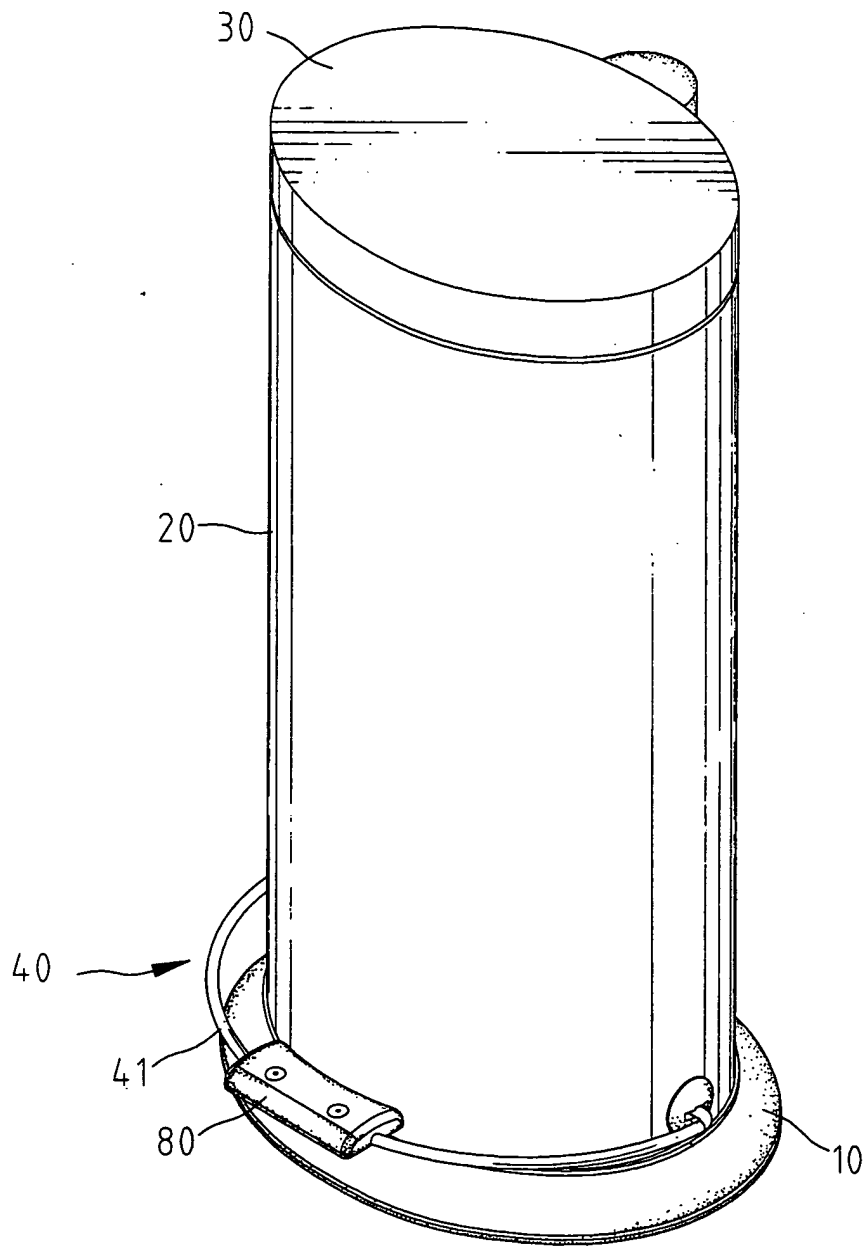


Fig. 8

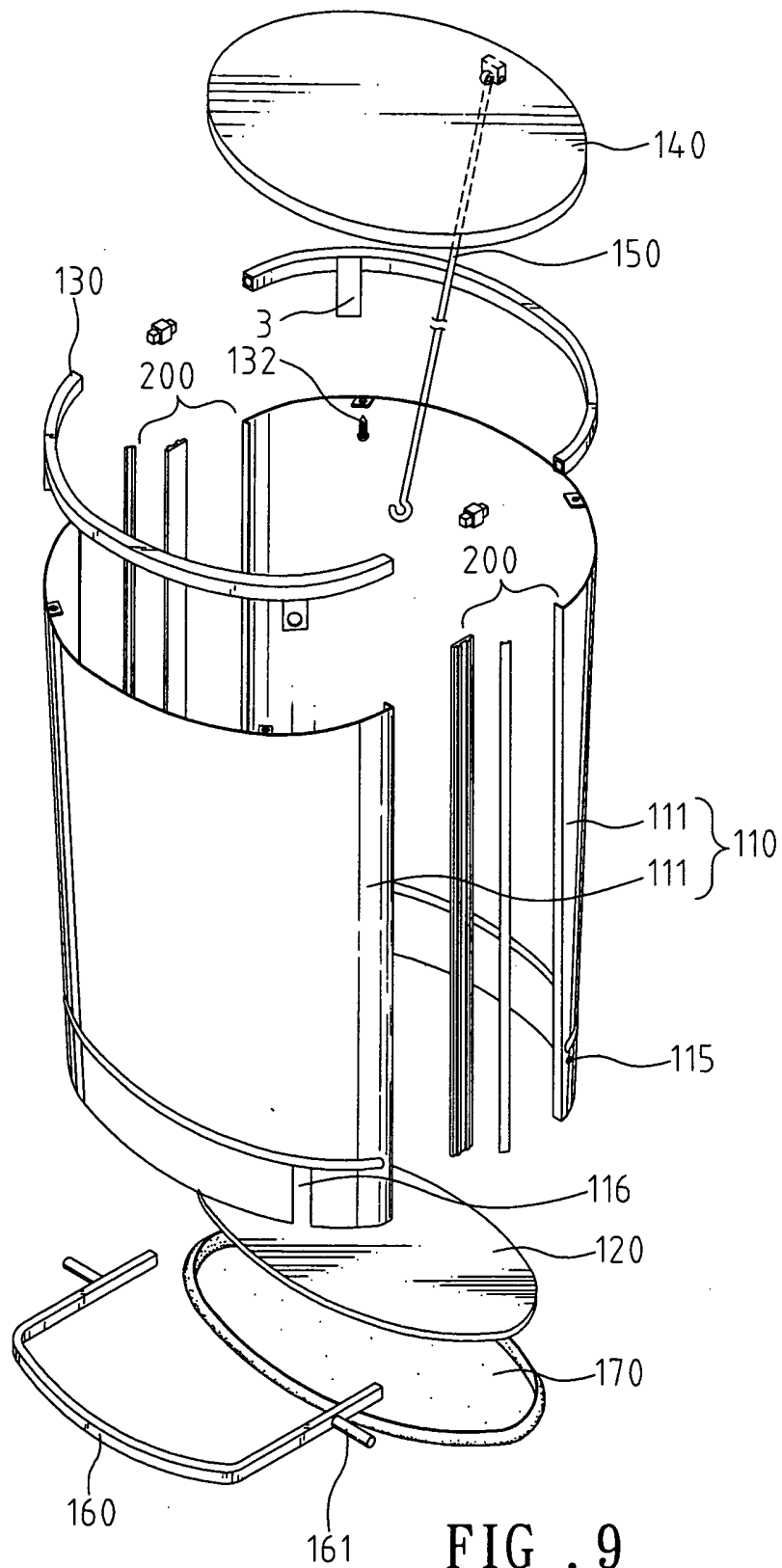


FIG . 9
PRIOR ART



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 04 01 5766

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	EP 1 094 017 A (HAILO-WERK RUDOLF LOH GMBH & CO KG) 25 April 2001 (2001-04-25) * the whole document *	1	B65F1/16
A	US 2 549 572 A (A. CAMPANELLI) 17 April 1951 (1951-04-17) * the whole document *	1	
A	DE 203 09 880 U (AUTHENTICS GMBH) 30 October 2003 (2003-10-30) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		29 October 2004	Smolders, R
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
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 01 5766

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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29-10-2004

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