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(72) Inventor: **Tontarelli, Sergio**  
**60022 Castelfidardo (AN) (IT)**

(74) Representative: **Baldi, Claudio**  
**Viale Cavallotti, 13**  
**60035 Jesi (AN) (IT)**

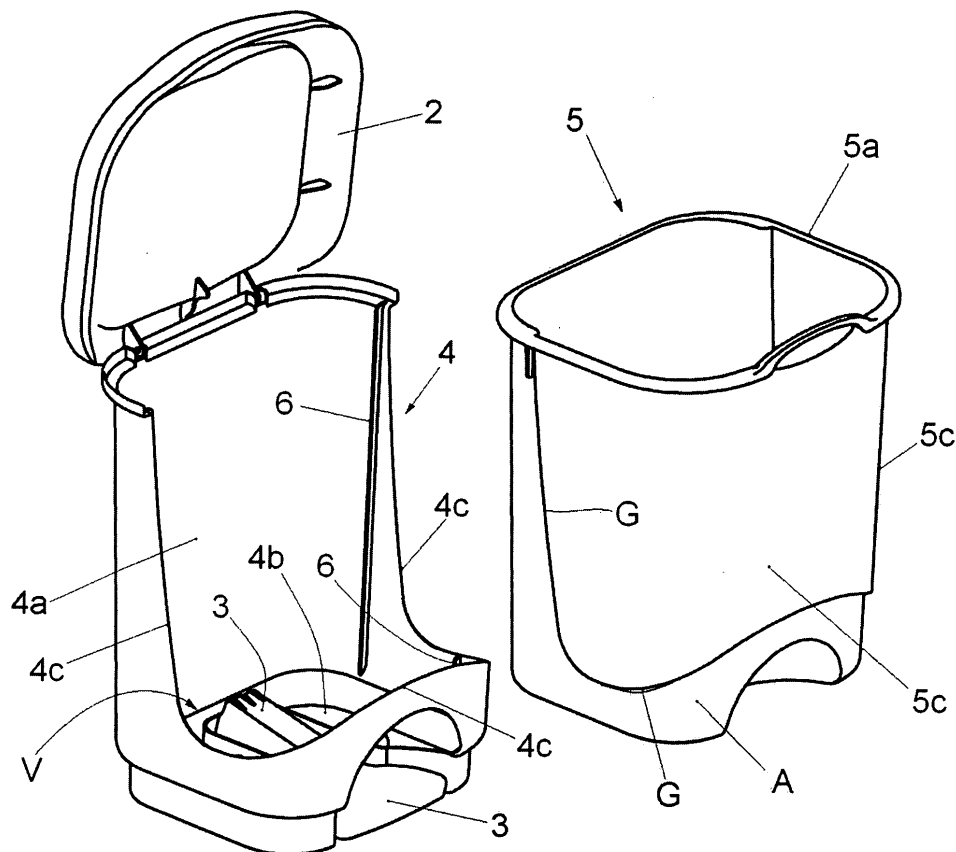
(71) Applicant: **Tontarelli, Sergio**  
**60022 Castelfidardo (AN) (IT)**

Remarks:  
Amended claims in accordance with Rule 137(2) EPC.

(54) **Pedal bin**

(57) The present invention relates to a trash bin of the type comprising a waste holding bucket (5), closed by a lid (2) that can be indirectly lifted by means of a pedal

(3), said bucket (5) is supported and guided by a frame (4) to which both the pedal (3) and the lid (2) are pivoted, said lid (2) is sized and shaped in such a way to close the opening of the bucket (5).



**FIG. 3**

## Description

**[0001]** The present patent application for industrial invention relates to a trash bin comprising a frame that supports and guides a waste holding bucket that can be indirectly lifted by means of a pedal, pivoted at the bottom of the said frame, which is also designed to support the folding lid that closes the trash bin.

**[0002]** The trash bin of the invention is an evolution of the models of trash bins obtained by moulding of plastic material, composed of an external fixed bucket that contains and conceals a mobile waste holding bucket sliding in up-down direction that, during the ascending travel, overturns the closing lid of the external fixed bucket hinged on the back side of the opening of the said bucket.

**[0003]** The lid is overturned upwards and backwards when it suffers the interference of the upper border of the internal bucket during the ascending travel.

**[0004]** The internal bucket is lifted by means of a pedal situated under the wall of the said bucket and pivoted to the bottom wall of the external bucket, from which the said pedal protrudes frontally.

**[0005]** More precisely, the bottom wall of the external bucket is provided with a central notch with U-shaped profile, in which the pedal is centred and pivoted in a central point in such a way to oscillate and swing around a horizontal axis.

**[0006]** When the operator exerts pressure on the ending part of the pedal that protrudes on the front of the trash bin - thus lowering the said end - the opposite end of the pedal rises, exerting an upward force that lifts the internal bucket that, during the ascending travel, exerts an overturning thrust on the lid above.

**[0007]** A trash bin of this type is disclosed and illustrated in the patent for utility model No. 248367 registered by the same applicant.

**[0008]** The primary purpose of the present invention is to design a trash bin that, although having the same operation modes and advantages of the aforementioned models of trash bin, is characterised by lower weight and lower manufacturing cost, with the same capacity of the waste holding bucket and the same moulding material.

**[0009]** The primary purpose has been achieved by the trash bin of the invention, whose main peculiarity consists in the innovative structural configuration, according to which the waste holding bucket is supported and guided by a frame, to which both the lifting pedal of the said bucket and the folding lid of the trash bin are pivoted, which is sized and shaped in such a way to close the opening of the said bucket.

**[0010]** The lower weight and lower cost of the trash bin of the invention derive from the fact that, because of the reduced mass, the supporting frame has a lower weight and a lower manufacturing cost than the external bucket of the known models of trash bins.

**[0011]** More precisely, the said frame comprises a base tub designed to house the bottom area of the waste holding bucket, with at least a back protruding wall piv-

oted on top to the folding lid of the trash bin.

**[0012]** The lifting pedal of the waste holding bucket is pivoted with respect to a horizontal axis in the centre of the bottom wall of the said base tub. The up-down travels of the waste-holding bucket are guided by the said frame, which is suitably provided with centring and guiding means for the waste-holding bucket.

**[0013]** The secondary purpose of the present invention consists in devising a trash bin characterised by lower weight and cost than the known models of the same type, which has the same external appearance as the known models of trash bins in closed configuration, regardless of the fact that in the trash bin of the invention the supporting frame does not conceal the waste holding bucket, which remains always visible, unlike the known models of trash bins, in which the internal waste holding bucket is concealed and contained in the external bucket.

**[0014]** In order to achieve the second purpose, the trash bin of the invention uses a waste holding bucket that is provided on the external surface with lowered shaped areas situated in such a way to exactly house the supporting frame, whose profile is exactly matched and aligned with the one of the lowered areas, so that the external visible surface of the waste holding bucket is perfectly connected with the external visible surface of the supporting frame, the two visible surfaces being only divided by a thin separation line that is perceived by the observer as a thin aesthetical surface incision rather than as a line of physical separation between the two components.

**[0015]** In other words, the external surface of the frame is visually incorporated, without interruption, into the external surface of the waste holding bucket, giving the impression of a traditional trash bin, of the type composed of an external bucket that contains and conceals the waste holding bucket.

**[0016]** For purposes of clarity the description of the trash bin according to the present invention continues with reference to the enclosed drawings, which are intended for purposes of illustration only and not in a limiting sense, wherein:

- Fig. 1 is an axonometric front view of the trash bin of the invention with closed lid;
- Fig. 2 is an axonometric front view of the trash bin of the invention with open lid;
- Fig. 3 is an exploded axonometric view of the waste holding bucket separated from the supporting and guiding frame;
- fig. 4 is an axonometric front view of a different embodiment of the trash bin of the invention with open lid, in order to show the peculiarity of the said embodiment, which differs from the previous one only in the presence of a parallel pair of waste holding buckets for differentiated waste collection.

**[0017]** With reference to figures 1 to 3, the trash bin of the invention (1) is provided with a lid (2) that is indirectly

lifted by means of a lifting pedal (3) whose end can be accessed from the centre of the front of the base of the trash bin (1).

[0018] The said trash bin (1) comprises a supporting and guiding frame (4) for a waste holding bucket (5) that slides in up-down direction with respect to the frame (4), which is provided with a back wall (4a) where the said frame (4) reaches its maximum height.

[0019] The lid (2) is hinged on top of the back wall (4a) of the frame (4) and is designed to be overturned upwards and backwards when the bucket (5) is lifted from the ordinary rest position, in which the upper border (5a) of the bucket (5) is situated at a height immediately below the lid (2), which is sized and shaped in such a way to close and exactly embrace the opening of the bucket (5), as shown in fig. 1.

[0020] The frame (4) is composed of a tub (V) designed to receive the bottom area of the bucket (5); the wall (4a) protrudes on the back of the tub (V), whose bottom wall (4b) is pivoted to the lifting pedal (3).

[0021] With reference to fig. 3, it must be noted that the frame (4) has a variable height, reaching a maximum value on the back to allow the lid (2) to be placed over the opening of the bucket (5) in closed position.

[0022] The external surface (5c) of the bucket (5) is provided with a lowered area (A) defined by a step (G) having the same profile as the profile (4c) of the frame (4), which can be perfectly combined with the said lowered area (A).

[0023] More precisely, when the trash bin is closed, the lowered area (A) is completely concealed by the walls of the frame (4), with the profile (4c) aligned with the step (G), as shown in fig. 1.

[0024] In view of the above, when the trash bin (1) is closed, the frame (4) practically supports the bucket (5), whose weight is discharged on the profile (4c) of the walls of the frame (4).

[0025] According to the present invention, when the trash bin is closed, the visible part of the external surface (5c) of the bucket (5) and the walls of the frame (4) are always aligned perfectly on the step (G), giving the impression to be a single continuous surface that coincides with the external surface (5c) of the bucket (5) with a merely decorative thin line (L), although the line (L) is not a decorative line, but the separation line (L) between the external surface (5c) of the bucket (5) and the wall of the frame (4).

[0026] The camouflage impression and effect are stronger if the frame (4) and the bucket (5) have the same surface finish and two different colours.

[0027] In such a case, the separation line (L) is interpreted as a line dividing two areas with different colour of the lateral surface (5c) of the bucket (5), which is interpreted by the observer as the external bucket of a trash bin of known type, in which the waste holding basket is concealed and contained in an external bucket.

[0028] Finally, attention is drawn on the fact that the frame (4) also comprises means that specifically consist

in vertical ribs (6) to guide and centre the up-down travels of the bucket (5).

[0029] Fig. 4 illustrates a different embodiment of the trash bin of the invention that, as mentioned above, differs from the previous one only in that it is provided with a parallel pair of waste holding buckets for differentiated waste collection.

[0030] In particular, the said pair of buckets comprises a front bucket (50) and a back bucket (51) with total capacity equal to the said single bucket (5).

[0031] In fact, the parallel pair of buckets (50 and 51) can be imagined as the result of a division of the same bucket (5) in two parts, a front part and a back part.

[0032] Only the back bucket (51) is subject to the interference of the lifting pedal (3), so that the lid (2) is overturned only by the back bucket (51), whose up-down travels are guided by the frame (4).

[0033] On the contrary, the front bucket (50) remains still, supported and centred in the tub (V) of the frame (4), whose profile (4c) is aligned with a step (G) obtained on the external walls of both buckets (50 and 51), which are provided on the external surface with a lowered area defined by the said step (G), having the same profile as the profile (4c) of the frame (4), in such a way that, when the trash bin is closed, the lowered area is completely concealed by the walls of the frame (4), with the step (G) being perfectly aligned with the profile (4c) of the frame (4).

## Claims

1. Trash bin of the type comprising a folding lid (2) that can be indirectly lifted by means of a pedal (3), and at least one waste bucket (5, 51) that can be directly lifted by means of said pedal (3), trash bin (1) **characterised in that** it comprises a frame (4) consisting in a tub (V) designed to receive the bottom of the bucket (5, 51) and at least provided with a higher back vertical wall (4a) pivoted on top with the said folding lid (2), while the pedal (3) used to lift the lid (3) is pivoted on the bottom (4b) of the tub (V).
2. Trash bin according to the above claim, **characterised in that** the said frame (4) also comprises guiding and centring means (6) for the up-down travels of the bucket (5, 51).
3. Trash bin according to the above claim, **characterised in that** the said guiding and centring means for the up-down travels of the bucket (5, 51) consist in vertical ribs (6).
4. Trash bin according to any of the above claims, **characterised in that** the bucket (5, 51) is provided on the external surface (5c) with a lowered area (A) defined by a step (G) with the same profile as the profile (4c) of the frame (4), in such a way that when the

trash bin (1) is closed, the lowered area (A) is completely covered by the walls of the frame (4), with the profile (4c) being exactly stopped against the said step (G).

5. Trash bin according to the above claim, **characterised in that** when the trash bin (1) is closed, the visible portion of the external area (5c) of the bucket (5, 51) and the walls of the frame (4) are always perfectly aligned on the step (G).

6. Trash bin according to any of the above claims, **characterised in that** it comprises only one pull-out bucket (5) and **in that** the lid (2) is sized and shaped in such a way to close and exactly embrace the opening of the waste bucket (5).

7. Trash bin according to any of the above claims 1 to 5, **characterised in that** it comprises:

- a parallel pair of waste buckets (50 and 51), a front bucket (50) and a back bucket (51), closed by the same folding lid (2) designed to be indirectly lifted by means of a pedal (3);
- a frame (4) designed to support and centre the pair of buckets (50 and 51), the said frame (4) being composed of a tub (V) designed to receive the bottom of the pair of buckets (50, 51) and also provided with at least a higher back vertical wall (4a) pivoted on top with the folding lid (2), while the pedal (3) used to lift the pedal (2) is pivoted on the bottom (4b) of the tub (V).

8. Trash bin according to the above claim, **characterised in that** the said frame (4) comprises guiding and centring means (6) for the up-down travels of the back bucket (50, 51) and centring means of the front bucket (50).

9. Trash bin according to the above claim, **characterised in that** one or both buckets (50, 51) are provided on the external surface with a lowered area defined by a step (G) with the same profile as the profile (4c) of the frame (4), in such a way that when the trash bin (1) is closed, the lowered area is completely covered by the walls of the frame (4), with the profile (4c) being exactly stopped against the said step (G).

10. Trash bin according to the above claim, **characterised in that** when the trash bin (1) is closed, the visible portion of the external area of the buckets (50, 51) and the walls of the frame (4) are always perfectly aligned on the step (G).

## Amended claims in accordance with Rule 137(2) EPC.

1. Trash bin of the type comprising:

- a lid (2) that can be indirectly lifted by means of a pedal (3),
- at least one waste bucket (5, 51) that can be directly lifted by means of said pedal (3), so that by lifting the waste bucket by means of the pedal, the waste bucket causes pivoting of the lid,
- a frame (4) consisting in a tub (V) designed to receive the bottom of the bucket (5, 51) and at least provided with a higher back vertical wall (4a) pivoted on top with the said lid (2), while the pedal (3) used to lift the lid (3) is pivoted on the bottom (4b) of the tub (V),

### characterised in that

the bucket (5, 51) is provided on the external surface (5c) with a lowered area (A) defined by a step (G) with the same profile as the profile (4c) of the frame (4), in such a way that when the trash bin (1) is closed, the lowered area (A) is completely covered by the walls of the frame (4), with the profile (4c) of the frame (4) being exactly stopped against the said step (G).

2. Trash bin according to the above claim, **characterised in that** the said frame (4) also comprises guiding and centring means (6) for the up-down travels of the bucket (5, 51).

3. Trash bin according to the above claim, **characterised in that** the said guiding and centring means for the up-down travels of the bucket (5, 51) consist in vertical ribs (6).

4. Trash bin according to any of the above claim, **characterised in that** when the trash bin (1) is closed, the visible portion of the external area (5c) of the bucket (5, 51) and the walls of the frame (4) are always perfectly aligned on the step (G).

5. Trash bin according to any of the above claims, **characterised in that** it comprises only one pull-out bucket (5) and **in that** the lid (2) is sized and shaped in such a way to close and exactly embrace the opening of the waste bucket (5).

6. Trash bin according to any of the above claims 1 to 4, **characterised in that** it comprises:

- a parallel pair of waste buckets (50 and 51), a front bucket (50) and a back bucket (51), closed by the same lid (2) designed to be indirectly lifted by means of a pedal (3);
- a said frame (4) being designed to support and centre the pair of buckets (50 and 51), the said

frame (4) being composed of a tub (V) designed to receive the bottom of the pair of buckets (50, 51) and also provided with at least a higher back vertical wall (4a) pivoted on top with the lid (2), while the pedal (3) used to lift the lid (2) is pivoted on the bottom (4b) of the tub (V). 5

7. Trash bin according to the above claim, **characterised in that** the said frame (4) comprises guiding and centring means (6) for the up-down travels of the back bucket (51) and centring means of the front bucket (50). 10

8. Trash bin according to the above claim, **characterised in that** one or both buckets (50, 51) are provided on the external surface with a lowered area defined by a step (G) with the same profile as the profile (4c) of the frame (4), in such a way that when the trash bin (1) is closed, the lowered area is completely covered by the walls of the frame (4), with the profile (4c) of the frame (4) being exactly stopped against the said step (G). 15 20

9. Trash bin according to the above claim, **characterised in that** when the trash bin (1) is closed, the visible portion of the external area of the buckets (50, 51) and the walls of the frame (4) are always perfectly aligned on the step (G). 25

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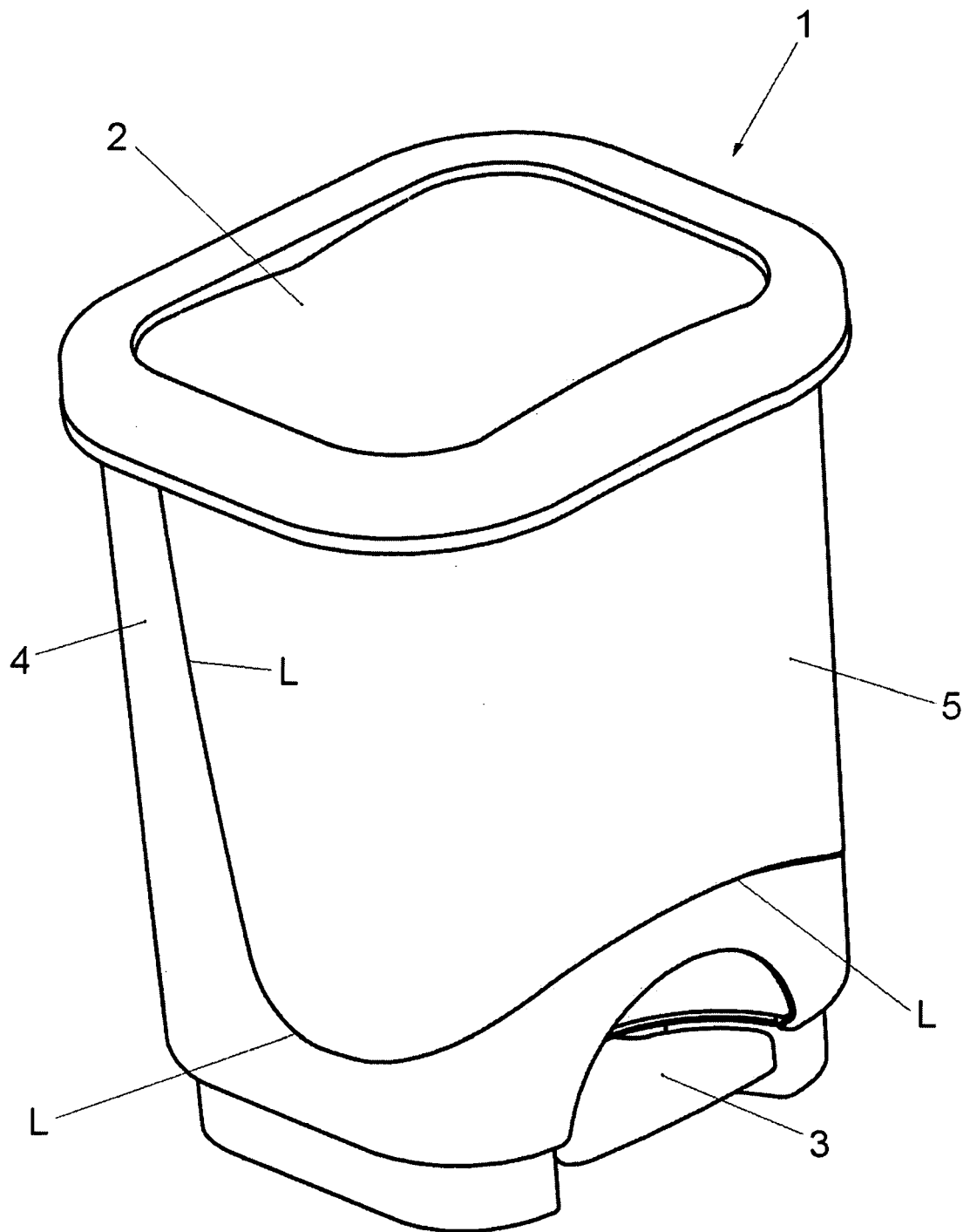


FIG. 1

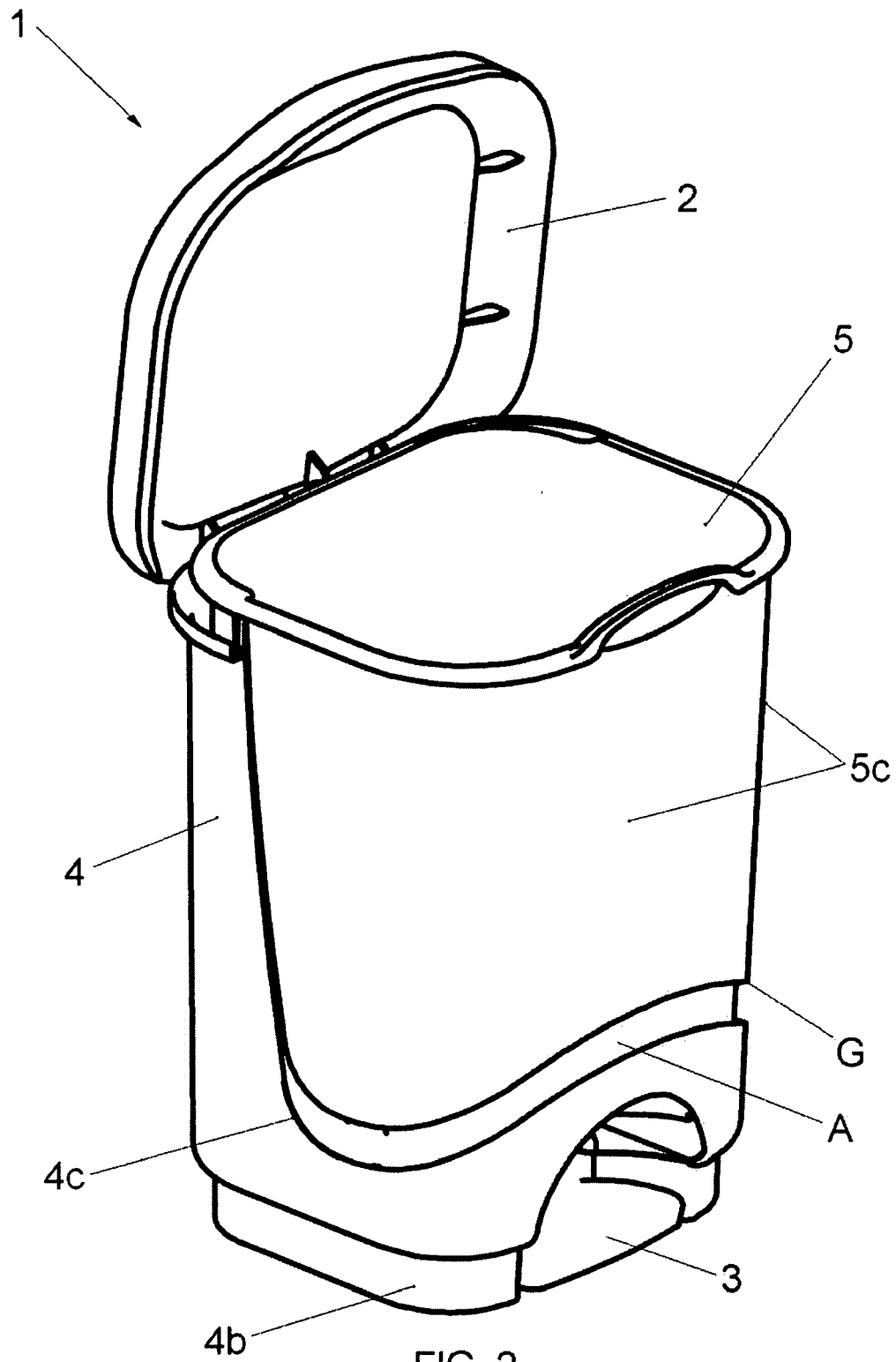


FIG. 2

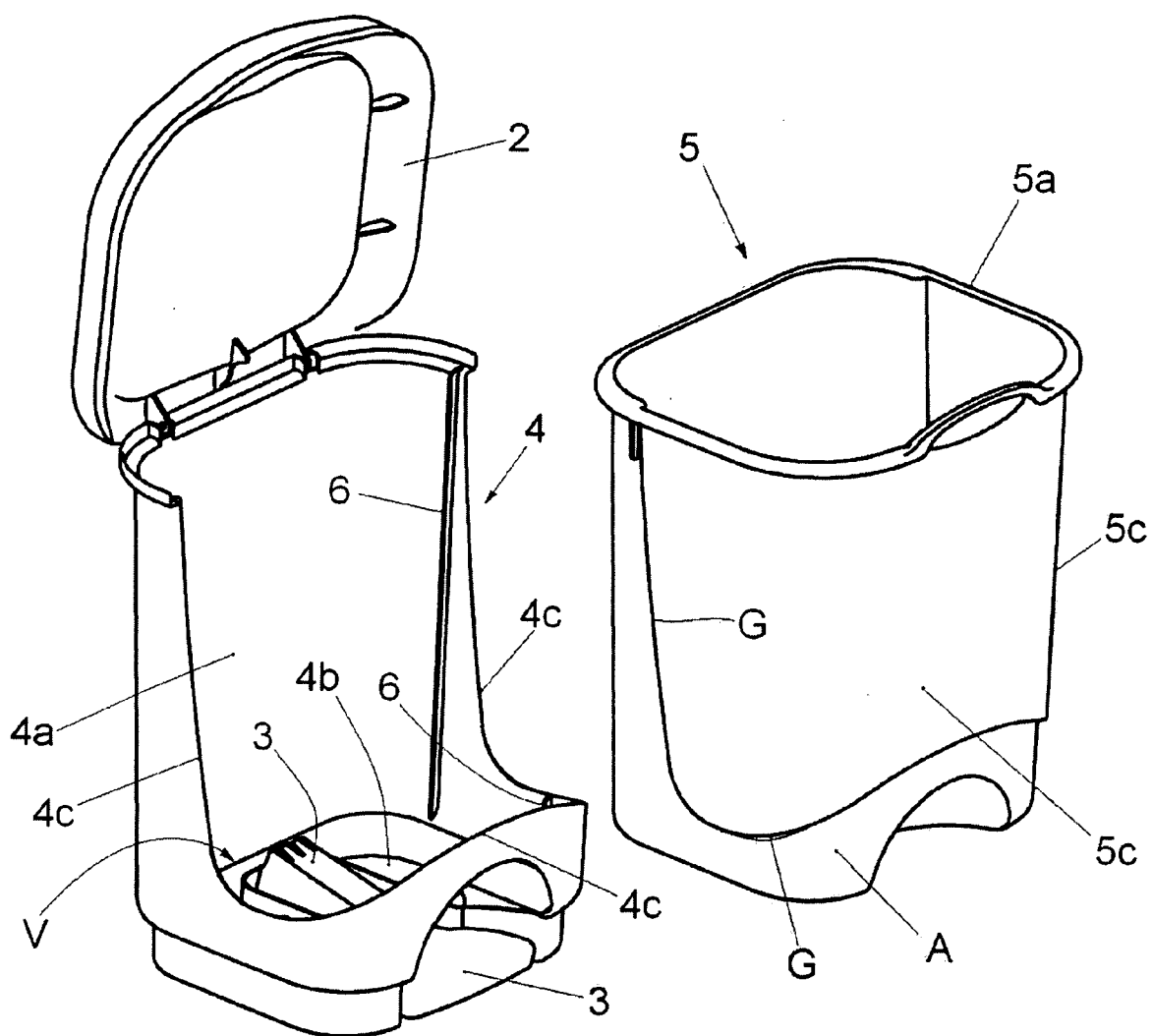


FIG. 3



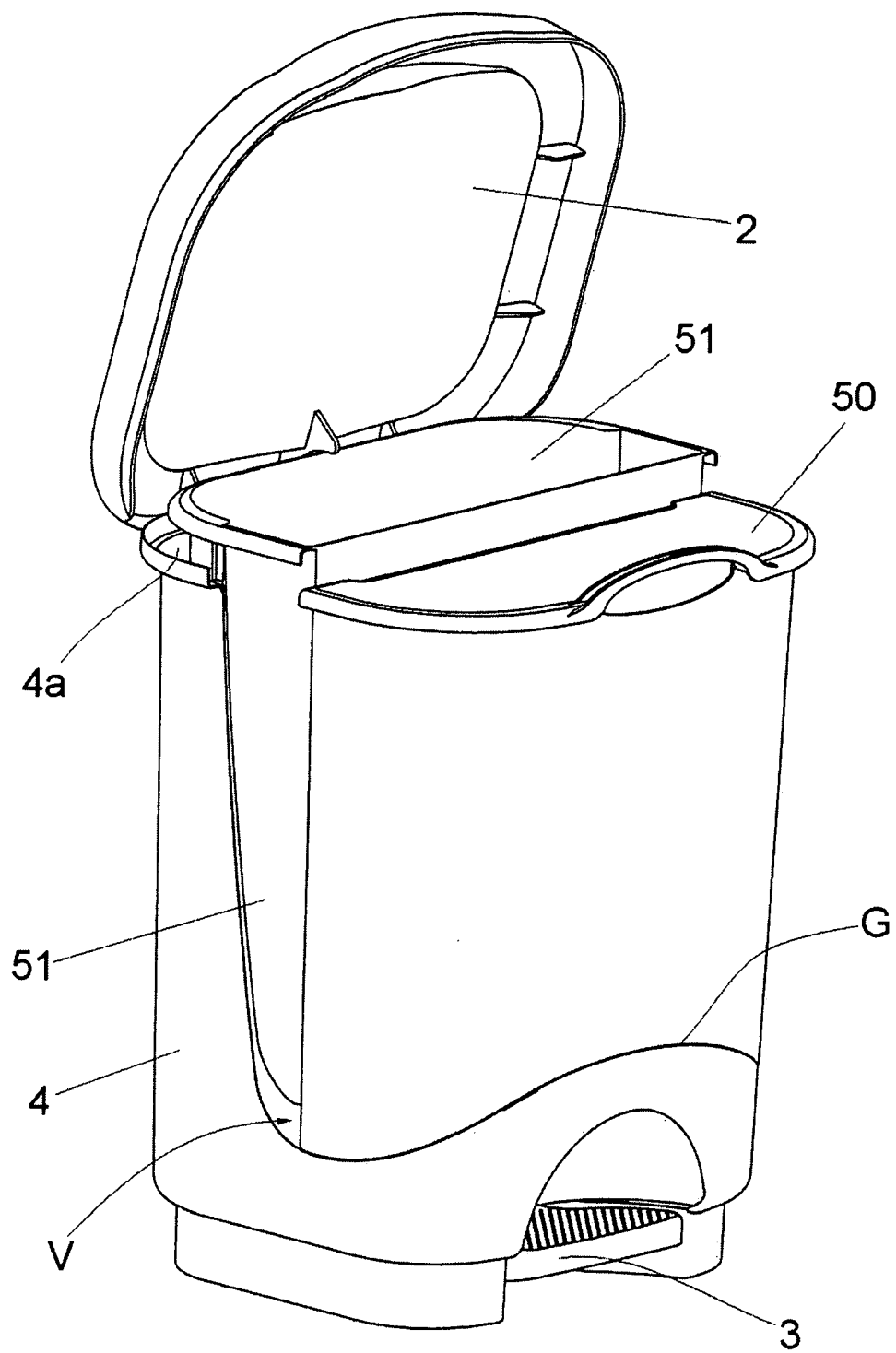


FIG. 4



## EUROPEAN SEARCH REPORT

Application Number  
EP 09 42 5035

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 92/02430 A (CURVER RUBBERMAID B.V.) 20 February 1992 (1992-02-20)	1,2,6	INV. B65F1/16 B65F1/08
A	* page 3, line 31 - page 5, line 11 * * figures 1-5 *	3	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
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Place of search		Date of completion of the search	Examiner
The Hague		15 June 2009	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 09 42 5035

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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