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(54) **WASTE STORAGE BAG**

(57) Bag (1) for waste storage, comprising:
- a bag body (2), made of flexible and recyclable material,
- a first hermetic seal (3) positioned close to the mouth of the bag body (2), and

- a second disposal closure (4), comprising a flexible channel (5) inside of which there are choke strips (6), and arranged at the mouth of the bag body (2), on the outside of the first closure (3).

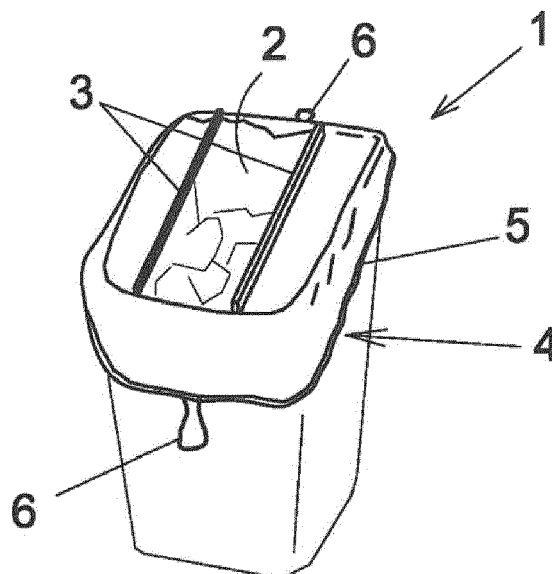


Fig 1

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Description

PURPOSE OF THE INVENTION

[0001] The present invention relates to a waste storage bag usable for improving health conditions and the environment.

BACKGROUND TO THE INVENTION

[0002] The use of plastic bags for the deposit of waste is now known. Such bags are usually installed in a bucket, which in most cases is provided with a lid to minimize the possibility of odour diffusion.

[0003] in the case of organic waste, which decomposes by releasing odours, or directly in certain residues of an odorous nature, such as used nappies, although there is a lid some diffusion of odours is unavoidable, either due to the poor fit of the bag or due to poor closure of the lid, which is very generally unpleasant, and more so in places of public or common use. These problems are resolved with the use of this innovative storage bag.

DESCRIPTION OF THE INVENTION

[0004] The bag for waste storage of the invention is above all designed for use for the storage of organic and inorganic odorous waste and has a configuration that allows decompression where gases are generated inside it.

[0005] According to the invention, the storage bag comprises:

- a bag body of flexible and recyclable material,

a first hermetic seal (which is understood herein as a seal where there are no gaps or spaces for entry or exit of the air, and which allows it to be opened and closed multiple times, allowing it to be opened, a nappy or waste to be deposited and reclosed to prevent the exit of odours in closed or semi-open environments, arranged close to the mouth of the bag body, and a second disposal closure, comprising a flexible channel inside which choke strips, arranged at the mouth of the bag body, are arranged on the outside of the first closure.

[0006] in this way there is a double closure that prevents bad odours, where the first closure allows use several times, until the pouch is filled, and the second closure is similar to that of current rubbish bags, firmly closing the mouth of the bag and facilitating its carrying, once it is completely full.

[0007] When in use, it is moved into the rubbish bin and filled by opening and closing the first closure. Once full, the second closure is closed until it can be removed, to carry the waste to the place of deposit or collection. This

increases the ease of use for the user and facilitates the separation and recycling of waste and the management of waste by specific companies and administrations.

[0008] The optimum position for the bag is in the bathroom, for waste storage of cosmetics, intimate hygiene, containers, swabs, wipes, etc. it can also be used for storage of baby consumables, such as wipes, synthetic sponges, baby hygiene containers (serum, creams, etc.) nappies, cleaning pads and breastfeeding pads, etc.

[0009] in the use of garbage collection house by house, thanks to the double closure, the collection and airtightness is optimized (with this the hygiene and collection and time that the garbage can be left in the community space without harming anyone, and therefore ease of its handling). It can be divided, since the bags would be marked with the type of waste, according to its recycling.

[0010] In hospitality services, the hygiene and the smell are optimized, since many foods and hospitality products are prone to changes in temperature, humidity and with it changes in the smell of a place. This also affects the taste of food without good ventilation or there are no resources or dispensable space for their correct separation.

[0011] Also, when transporting, where the driver can be in the vehicle working all day, actively improving recycling in your company; while users can use it.

[0012] Therefore, the ease of recycling can be given to the user without discomfort or confusion, providing the ease of having a waste deposit in any place in the house or establishment, without the discomfort of smell that has been the problem until now. With this, progress is made in achieving a sustainable circular economy in the long term, both economically and environmentally.

[0013] The bag will be manufactured in any size, and ideally in standard sizes from 10 litres to 100 litres, so that it can be adapted to any bin, bucket or container. Also, in the future, the bag could be made of biodegradable material.

[0014] Since the use of the bag of the invention is a hygienic practice, it allows grouping and reorder of the segmentation of recycling groups. These bags will achieve more effective recycling groups and at the same time simpler for the consumer and recycling process.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

[0015] Figure 1 shows a view of the bag of the invention placed in a bucket, with the first closure open.

Figure 2 shows a view of the bag of the invention placed in a bucket, with the first closure closed.

[0015] Figure 3 shows a view of the bag of the invention placed in a bucket, with the second closure open, and ready to be carried.

Figure 4 shows a view of the bag, with the two closures closed, and extracted from the bucket.

Figure 5 shows a detail view of the first closure in the internal pressure-adjustable hermetic variant, in open configuration.

Figure 6 shows a detailed view of the first seal in the internal pressure adjustable seal variant, in closed configuration, and an enlarged detail thereof.

Figures 7, 8 and 9 respectively show a bottom plan view, a top plan view and an elevated view of the flap membrane valves.

DESCRIPTION OF A PRACTICAL EMBODIMENT OF THE INVENTION

[0016] The waste storage bag (1) of the invention comprises:

- a bag body (2), made of flexible and recyclable material, a first hermetic seal (3) disposed closed to the mouth of the bag body (2), and
- a second disposal closure (4), comprising a flexible channel (5) inside of which there are choke strips (6), and arranged at the mouth of the bag body (2), on the outside of the first closure (3).

[0017] it is preferred that the first closure (3) is as wide as possible for opening and closing, so it will preferably span the entire width of the bag body (2).

[0018] Additionally, the bag may comprise handles (7), which will be arranged or glued to the stronger joints and where it can be seen that it may have better resistance to the elasticity or breakage of the bag.

[0019] As for the recyclable material, it will ideally comprise 100% recyclable plastic.

[0020] In the preferred embodiment of the first closure shown in figures 5 to 9, the first closure (3) comprises two halves (30, 31), one of them with a convex rail (30a) and the other with a concave rail (31a) in zigzag configuration with rounded inner edges, which are joined by friction; comprising a progressive variable difference of diameters (D30, D31) between the convex rail (30a) and the concave rail (31a), this difference of diameters being greater in the inner part (33) of the closure (the one remaining on the inside of the bag) and smaller on the outside (34) of the closure; the direction changes (35) of the zigzag configuration reaching the inside (33) and the outside (34) of the closure so that the excess pressure can escape, since by having a wavy shape, the incoming excess pressure is divided between the two branches of the adjacent rails, acting as a pressure divider; and the outer edge comprising first membrane valves (37) of flaps that reduce excess pressure by oscillating as the gases escape, and that are incorporated in a first upright (37a)

arranged on the outside (34) of the closure. In this way, the excess pressure generated by fermentation of the residues contained in the interior of the bag, can escape through the spaces generated between the progressive differences in diameter of the channels, which act as a progressive valve with the cooperation of the outer flap membrane valves, avoiding overpressures in the interior of the bag that may break it.

[0021] Additionally, this version of the closure may comprise second flap membrane valves (36) incorporated in a second upright (36a) provided by the interior (33) of the closure.

[0022] Moreover, the zigzag configuration preferably comprises rounded inner edges (39) to improve pressure sharing between adjacent branches of the channels and adhesion of the two halves (30, 31) of the closure.

[0023] Finally, it is indicated that the flap membrane valves (36, 37) can have their tip (38) (the area where they offer the least resistance) in a straight or curved form, as seen in figures 7 to 9. These valves are helical because the resistance at the tip is lower, but they can also be flat.

[0024] Having sufficiently described the nature of the invention, as well as the manner in which to embody it in practice, it should be noted that the preceding provisions, indicated and represented in the attached drawings, are susceptible to changes in detail that do not alter the main principle.

Claims

1. Bag (1) for waste storage, **characterized in that it** comprises:

- a bag body (2), made of flexible and recyclable material,
- a first hermetic seal (3) positioned close to the mouth of the bag body (2), and
- a second disposal closure (4), comprising a flexible channel (5) inside of which there are choke strips (6), and arranged at the mouth of the bag body (2), on the outside of the first closure (3).

2. Waste storage bag (1) according to claim 1, **wherein** the first closure (3) is covering the entire width of the bag body (2).

3. Waste storage bag (1) according to any of the previous claims, **comprising** handles (7).

4. Waste storage bag (1) according to any of the preceding claims, **wherein** the recyclable material comprises 100% recyclable plastic.

5. Waste storage bag (1) according to any of the preceding claims, **wherein** the first closure (3) com-

prises two halves (30, 31), one of them with a convex rail (30a) and the other with a concave rail (31a) in a zigzag configuration with rounded inner edges, which are joined by friction; and comprising a progressive variable difference of diameters (D30, D31) between the convex rail (30a) and the concave rail (31a), this difference of diameters being greater in the inner part (33) of the closure and smaller in the outer part (34) of the closure; the changes of direction (35) of the zigzag configuration reaching the inner part (33) and the outer part (34) of the closure; and the outer edge comprising first flap membrane valves (37), incorporated in a first upright (37a) provided by the outer part (34) of the closure.

6. Waste storage bag (1) according to claim 5, **comprising** second flap membrane valves (36) incorporated in a second upright (36a) arranged by the inner part (33) of the closure.

7. Waste storage bag (1) according to claim 5 or 6, **wherein** the zigzag configuration comprises rounded inner edges (39).

8. Waste bag (1) according to any one of claims 5 to 7, **wherein** the flap membrane valves have their tip (38) in a straight or curved shape.

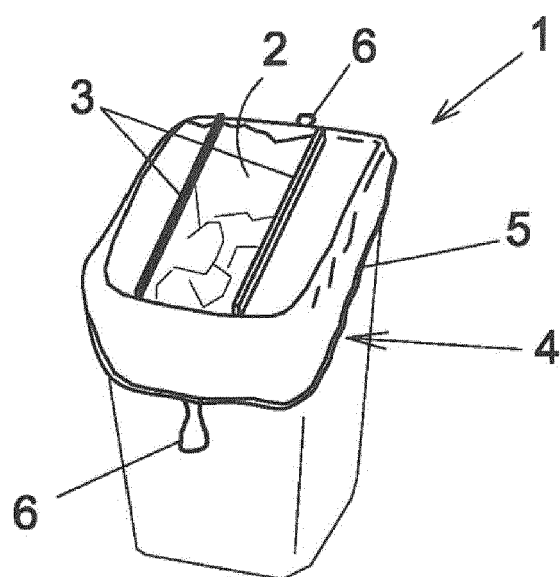


Fig 1

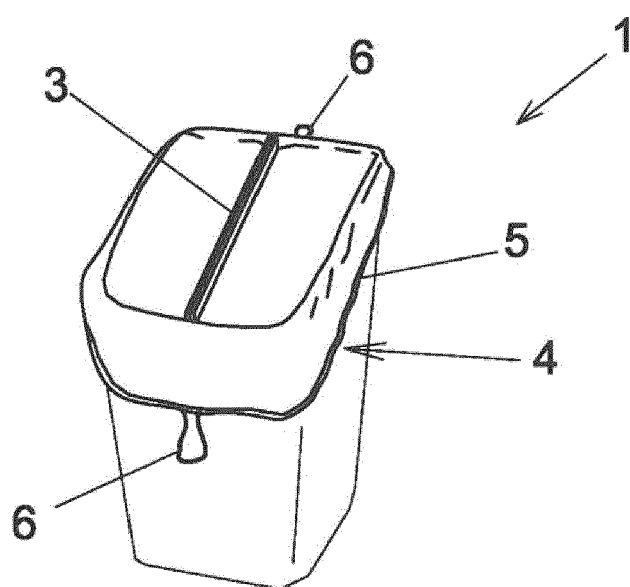


Fig 2

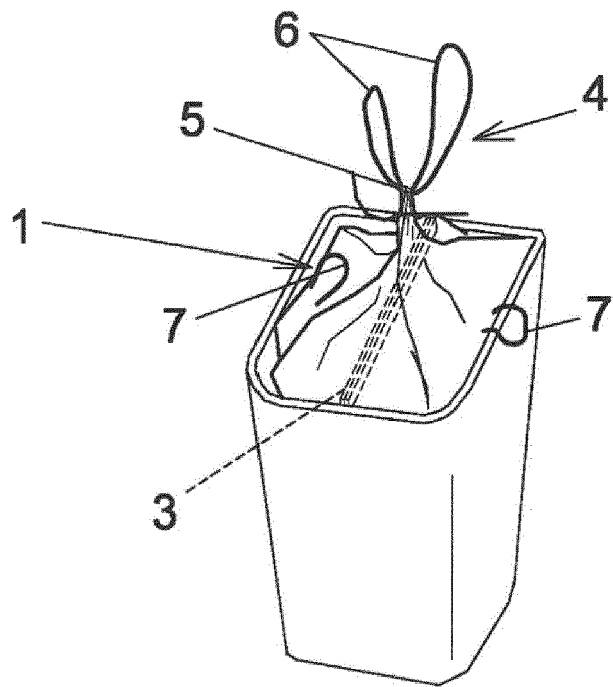


Fig 3

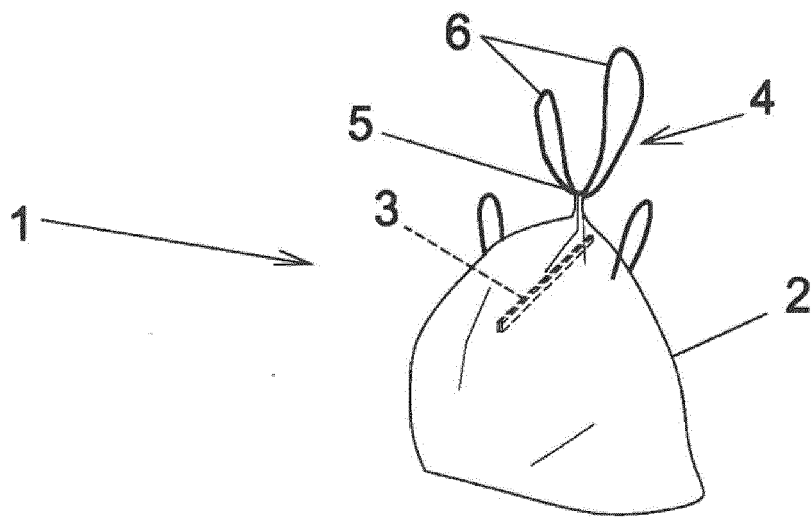


Fig 4

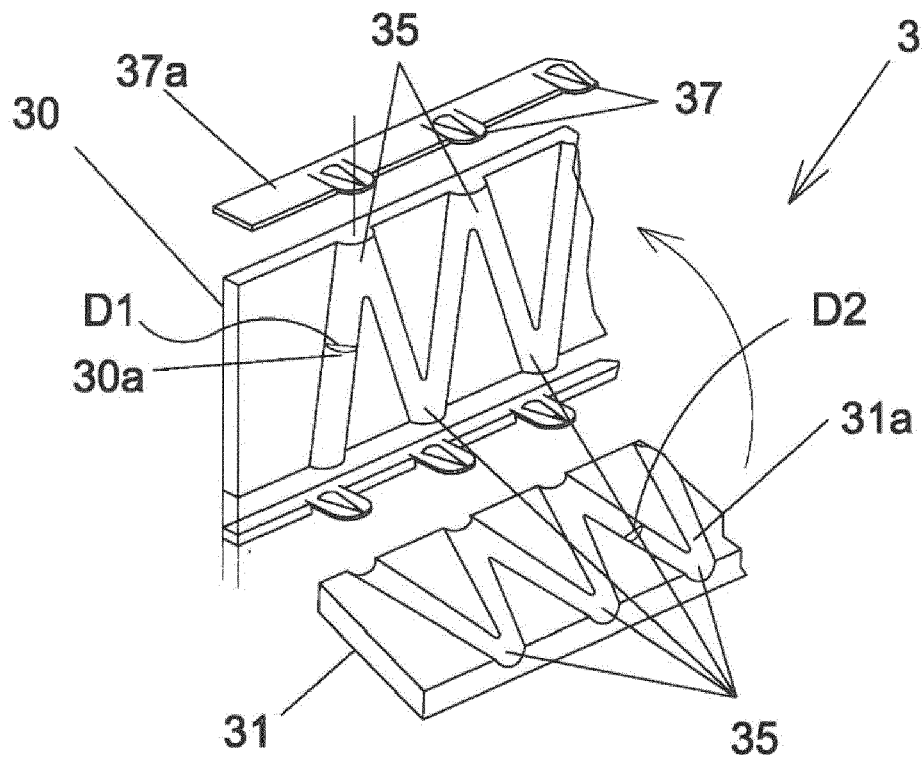


Fig 5

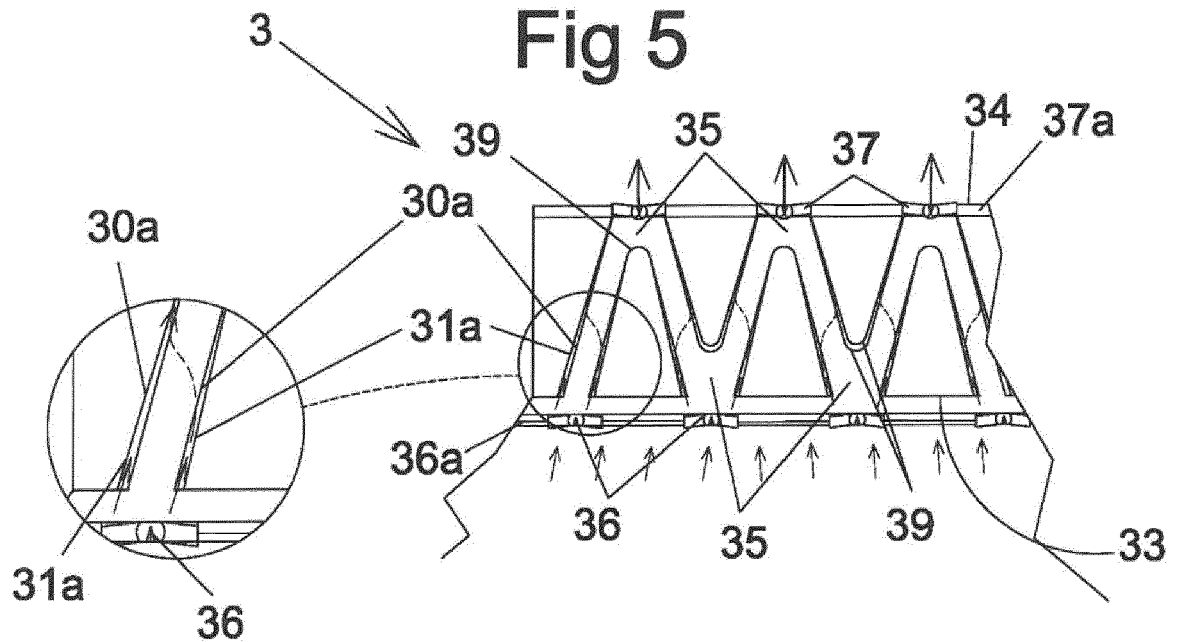


Fig 6

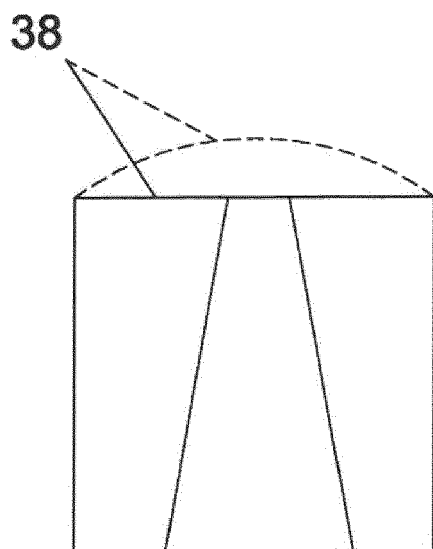


Fig 7

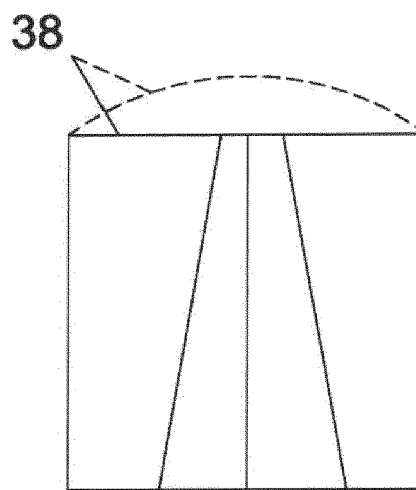


Fig 8

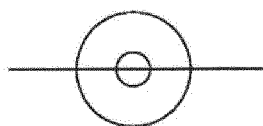


Fig 9



EUROPEAN SEARCH REPORT

Application Number

EP 23 38 2611

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	KR 2020 0099829 A (HANSEO UNIV ACADEMIC COOPERATION FOUNDATION [KR]; JO HYEON MIN [KR]) 25 August 2020 (2020-08-25)	1-4	INV. B65F1/00
A	* figures 6-8 *	5-8	
X	CN 111 003 381 A (BEIJING YISIDE LOGISTICS TECH CO LTD) 14 April 2020 (2020-04-14) * figure 1 *	1-3	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		7 December 2023	de Miscault, Xavier
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			
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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

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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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07-12-2023

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KR 20200099829 A	25-08-2020	NONE	
CN 111003381 A	14-04-2020	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82