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(54) **A reusable waste receptacle and a method for emptying it**

Wiederverwendbarer Abfallbehälter und Verfahren zur Entleerung davon

Réceptacle à déchets réutilisable et procédé pour son vidage

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EP 2 933 208 B1

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Description

TECHNICAL FIELD

[0001] The invention relates to a reusable waste receptacle according to the preamble of claim 1 and known from US-A-1 953 042.

PRIOR ART

[0002] Waste management is an area that has rendered a large interest during the last decades due to the environmental problems that are caused by the waste. In order to decrease the environmental impact from waste, recycling of waste is performed. In addition, waste recycling enables that the valuable resources of the waste are maintained.

[0003] The Extended Producer Responsibility (EPR) is a strategy where the responsibility for managing the product when it, at the end of its lifetime, is considered waste is put on the producer. By implementing EPR, waste management and recycling become even more concerned. In order to enable waste recycling, there have been introduced automatic separation techniques for separating different fractions of waste from each other when different wastes initially are mixed. However, it has in many cases been considered more efficient to let the consumer divide the waste into different fractions already when the consumer disposes the product. This has raised a demand for equipment and procedures for handling the fractions efficient from when the product is considered waste until the waste is recycled or disposed.

[0004] Much effort has been devoted to the large scale handling of the fractions of waste, i. e. when the waste has been collected from the consumers. The handling of waste on the small scale, i.e. initially collecting waste in different fractions when a product is considered waste and transferring the waste to a waste bin from which the waste is collected at the consumers or in a public place, has received much less interest.

[0005] CH704483 discloses a waste container comprising a solid cover, a stable collar, a flexible insert and a stable base. The height of the stable collar is equal to the height of the flexible insert, so as to allow the flexible insert to be inserted within the stable collar and to compress the waste content such that base is made to contact with solid cover. The air inside the main structure is sucked by vacuum pump.

[0006] US7273155 discloses a trash receptacle that receives and supports a thin flexible trash bag liner and sucks the empty flexible liner tight against the interior surfaces of the receptacle in a full open position absent any air pockets or billowing by extracting air trapped between the exterior surface of the liner and the interior surfaces of the receptacle. As a result the empty flexible is sucked tight against the interior surfaces of the receptacle in a full open position absent any air pockets or billowing.

[0007] Further prior art is disclosed in CH-A-447 021.

SUMMARY OF THE INVENTION

[0008] An object of the present invention is to provide a reusable waste receptacle that is readily emptied and then used again.

[0009] The reusable waste receptacle comprises an inner flexible container and a rigid outer container, wherein the inner flexible container has an open top end, a closed bottom end and a flexible and collapsible section provided between said open top end and said closed bottom end, said open top end being enclosed by an attachment section, wherein a rigid supporting collar is arranged to attach said attachment section to said rigid outer container, wherein the rigid outer container is formed with at least an open section at the bottom, and wherein the closed bottom end of the inner flexible container can be pressed using a hand such that waste in the inner flexible container is forced out of the open top end and into a waste container. In use the rigid outer container protects and substantially encloses the inner flexible container. In accordance with the invention source separation is highly facilitated.

[0010] Said upper attachment section is sufficiently rigid to ensure that said inner flexible container is maintained in a fixed position inside said rigid outer container.

[0011] The collapsible section constitutes the main part of the inner flexible container and will contain the waste. According to the invention a grip section extends from the closed bottom end of the inner flexible container.

[0012] The shape of said rigid supporting collar corresponds to the shape of the rigid outer container, so as to avoid a gap between the collar and the rigid outer container. Said rigid supporting collar may be formed in one piece or may be divided into a plurality of appropriately shaped sections.

[0013] When the reusable waste receptacle is emptied the inner flexible container is turned inside out. Using the open section at the closed bottom end, the bottom section of said inner flexible container is pressed through and out of the rigid outer container until the waste is removed. Then, the inner flexible container is returned to the previous position by pulling the grip section.

[0014] Said inner flexible container may be releasably attached to said rigid outer container. In one embodiment said rigid supporting collar is provided with a plurality of hollow extensions fitting in apertures in said attachment section of said inner flexible container and in apertures of said rigid outer container.

[0015] In a further embodiment pins are formed to be pressed into said hollow extensions so as to lock said inner flexible container in a fixed position in said rigid outer container.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] In order that the manner in which the above re-

cited and other advantages and objects of the invention are obtained will be readily understood, a more particular description of the invention briefly described above will be rendered by reference to specific embodiments thereof which are illustrated in the appended drawings.

[0017] Understanding that these drawings depict only typical embodiments of the invention and are not therefore to be considered to be limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

- Fig. 1 is a schematic partial cross section view of one embodiment of a receptacle in accordance with the invention,
- Fig. 2 is an enlarged cross section view of the section depicted by dash and dot lines in Fig. 1,
- Fig. 3 is a schematic perspective view of one embodiment of a rigid supporting collar with a plurality of locking pins used in a receptacle in accordance with the invention,
- Fig. 4 is a schematic perspective view of one embodiment of the pin shown in Fig. 3,
- Fig. 5a-5f are schematic cross section views illustrating a process of emptying a reusable waste receptacle in accordance with the invention,
- Fig. 6 is a schematic perspective view of one embodiment of a reusable waste receptacle in accordance with the invention and
- Fig. 7 is a schematic diagram showing combinations of different thickness and hardness of materials that can be used in an inner flexible container in accordance with the invention.

DETAILED DESCRIPTION

[0018] In the embodiment of a reusable waste receptacle 10 shown in Fig. 1 an inner flexible container 12 is completely enclosed in a rigid outer container 18. The inner flexible container 12 has an open top end 14 and a closed bottom end 16. Between the open top 14 and the closed bottom end 16 the inner flexible container 12 is formed with a flexible and collapsible section 20. At the open top end 14 the inner flexible container 12 is provided with an attachment section 22. A rigid supporting collar 24 attaches said attachment section 22 to said rigid outer container 18. A grip section 26 extends from the closed bottom end 16.

[0019] The material used for the inner flexible container 12 and the thickness of it ensure that the shape and volume of it substantially is maintained irrespective of the inner flexible container being empty or holds waste. The thickness of the material further allows the inner flexible container 12 to be turned inside out. When the reusable waste receptacle 10 is emptied the closed bottom end 16 of the inner flexible container 12 is pressed towards

and through the open top end 14, c.f. Fig. 5a-Fig. 5f and description below. Then the inner flexible container 12 is pulled back using the grip section 26 to the position shown in Fig. 1.

[0020] Fig. 2 shows in more detail one embodiment of a connection between the inner flexible container 12 and the rigid outer container 18. The rigid supporting collar 24 is provided with a plurality of hollow extensions 28, c.f. Fig. 3. The extensions 28 fit in apertures in the inner flexible container 12 and corresponding apertures in the rigid outer container 18 and have a length substantially equal to the added thickness of the inner flexible container 12 and the rigid outer container 18. When mounting the inner flexible container 12 in the rigid outer container 18 the hollow extensions 28 are pressed through the apertures of both containers to ensure a correct positioning. In various embodiments the outer dimensions of the hollow extensions correspond to the inner dimensions and shape of the apertures in the inner flexible container 12 and corresponding apertures in the rigid outer container 18.

[0021] Pins 30 having an outer diameter approximately corresponding to an inner diameter of the hollow extensions 28 are then inserted through the hollow extensions 28 and coinciding apertures of the inner flexible container 12 and the rigid outer container 18 to interlock the containers. In various embodiments a circular ridge 32 is formed at an inner cylindrical surface of each hollow extension 28. A circular indentation 34 close to a top end of the pin 30 will receive the circular ridge 32 when the pin 30 is fully inserted in the position shown in Fig. 2. As a result the pin 30 will remain in position and keep the inner flexible container 12 and the rigid outer container 18 in an interlocked position. Still, withdrawal of the pin 30 is possible.

[0022] As shown in Fig. 2 the attachment section 22 can have larger thickness than the collapsible section 20 to improve stability. Also a bottom section at the closed bottom end 16 may have a larger thickness or be formed with a harder material to maintain the original shape also during the emptying process. The collapsible section 20 is formed with less hardness or smaller thickness to provide a high flexibility.

[0023] A central slit 36 extending from the top end of the pin 30 allows the pin to be compressed and removed from the interlocking position, c.f. Fig. 4. As a result the inner flexible container 12 can be removed and optionally exchanged. The pin 30 is provided with a head 38 having a diameter larger than the outer diameter of the hollow extensions 28. As a result the head 38 will fully cover the hollow extensions when the pin 30 is in the interlocking position.

[0024] The embodiment of a rigid supporting collar 24 shown in Fig. 3 is a strip formed with a continuous closed rectangular shape. The strip has a rectangular cross section. The corners are curved in accordance with an inner shape of the rigid outer container 18. The number and distribution of hollow extensions 28 depend on the size

and form of the receptacle and of the intended use of it. Normally, one pin 30 is arranged for each hollow extension 28.

[0025] In various embodiments the rigid supporting collar 24 is divided into sections, each section corresponding to a separate part of the rectangular shape. The sections do not necessarily add up to a complete rectangular shape but have a total length and design to maintain the inner flexible container 12 in position in the rigid outer container 18. Different sections are indicated with dash and dot lines in Fig. 3 each section being an elongated straight strip element.

[0026] The embodiment of a pin 30 shown in Fig. 4 comprises a head 38 and a round bar 40 extending in a perpendicular direction from the head 38. The central slit 36 is formed over at least a substantial part of the length of the round bar 40. The circular indentation 34 is formed close to a top end of the round bar 40. If a pin 30 positioned in the interlocking position as shown in Fig. 2 is pulled out the central slit 36 will allow the round bar 40 to be slightly compressed and the top end can pass the circular ridge 32, c.f. Fig. 2.

[0027] Fig. 5a - 5f show schematically the process of emptying a waste receptacle 10 in accordance with the invention. In Fig. 5a the waste receptacle 10 is placed in front of a waste container 42 having an opening 44. In the embodiment shown in Fig. 5a - 5f the opening 44 of the waste container 42 is adapted in size and shape to the open top end 14 of the waste receptacle 10. The opening 44 of the waste container 42 is smaller or larger than the open top end 14 of the waste receptacle 10.

[0028] A first step in the process is to place the waste receptacle 10 at the opening 44 of the waste container 42. The waste receptacle 10 is rotatably connected to a lower edge of the opening 44. This type of connection will allow the waste receptacle 10 to be tilted in a second step as shown in Fig. 5b to the position shown in Fig. 5c.

[0029] When the waste receptacle 10 is in the position shown in Fig. 5c a third and emptying step can be started. By pressing at the closed bottom end 16 of the inner flexible container 12 using a hand waste in the inner flexible container 12 will be forced out of the open top end 14 and into the waste container 42. This step is continued until the waste has been removed from the inner flexible container 12 as shown in Fig. 5d.

[0030] In a fourth step, as shown in Fig. 5e, the closed bottom end 16 is pulled back. This step is facilitated by allowing a person to catch the grip section 26 and pull the closed bottom end 16 backwards. The fourth step is completed when the closed bottom end 16 is returned to the starting position as shown in Fig. 5f. From this position the emptied waste receptacle 10 can be removed from the waste container 42 and returned to a position of normal use. It should be noted that the rigid outer container 18 is maintained in a substantially fixed position during the emptying steps as shown in Fig. 5c - Fig. 5f.

[0031] Fig. 6 is to illustrate one embodiment of a waste receptacle 10 in accordance with the invention. The rigid

outer container 18 conceals the inner flexible container and only the grip section 26 is visible. A handle 46 is attached to the rigid outer container 18 to facilitate carrying the waste receptacle 10 to a waste container. A plurality of orifices 48 are formed in the rigid outer container 18. In various embodiments the waste receptacle 10 has a rectangular cross section, as shown in Fig. 6. Normally the shape and outer dimensions of the inner flexible container 12 correspond to the shape and inner dimensions of the rigid outer container 18.

[0032] As described above properties of the material of the inner flexible container 12 have an impact on the function. It could also be appropriate to select different dimensions, mainly thickness, over different sections of the inner flexible container 12. One important property of the material is the hardness defined as the material's resistance to permanent indentation using so called durometer scales. The diagram of Fig. 7 shows different combinations of thickness and hardness defined as a suitable area of properties depicted by a hatch fill. Thickness T of the material is shown on the X axis and hardness H on the Y axis. Hardness is defined in a durometer A scale. Suitable materials for the inner flexible container 12 are thermoplastic elastomers, silicones and rubber.

[0033] A preferred hardness is in an interval of Shore A 50-85 in combination with a thickness in an interval of 0,5-5 mm. When using a material having a thickness of 1,5-5,0 mm an appropriate hardness is Shore A 50. A thinner material such as in the interval of 0,5-2,0 mm preferably is combined with a harder material, such as one with a hardness of Shore A 85. The thicker the material the less Shore A value.

[0034] While certain illustrative embodiments of the invention have been described in particularity, it will be understood that various other modifications will be readily apparent to those skilled in the art. Accordingly, the scope of the claims should not be limited by the preferred embodiments set forth in the examples, but should be given the broadest interpretation consistent with the description as a whole.

Claims

1. A reusable waste receptacle (10) comprising an inner flexible container (12) and a rigid outer container (18), wherein the inner flexible container (12) has an open top end (14), a closed bottom end (16) and a flexible and collapsible section (20) provided between said open top end (14) and said closed bottom end (16), said open top end (14) being enclosed by an attachment section (22), wherein a rigid supporting collar (24) is arranged to attach said attachment section (22) to said rigid outer container (18), wherein the rigid outer container (18) is formed with at least an open section at the bottom, and wherein the closed bottom end (16) of the inner flexible container (12) can be pressed using a hand such that waste

in the inner flexible container (12) is forced out of the open top end (14) and into a waste container (42), **characterised in that** a grip section (26) extends from the closed bottom end (16) of the inner flexible container.

2. A reusable waste receptacle (10) as claimed in claim 1, wherein said rigid supporting collar (24) forms a closed curve.
3. A reusable waste receptacle (10) as claimed in claim 1, wherein said rigid supporting collar (24) is arranged inside said inner flexible container (12) to press said inner flexible container (12) against an inside surface of said rigid outer container (18).
4. A reusable waste receptacle (10) as claimed in claim 1 or claim 2, wherein the material of said inner flexible container (12) has a hardness of Shore A 50-85.
5. A reusable waste receptacle (10) as claimed in claim 4, wherein the thickness of inner flexible container (12) is 0,5-5,0 mm.
6. A reusable waste receptacle (10) as claimed in claim 4 or claim 5, wherein a larger thickness of said inner flexible container (12) is combined with a material of said inner flexible container (12) having lower Shore A hardness value.
7. A reusable waste receptacle (10) as claimed in claim 4, wherein a thickness of said inner flexible container (12) of 0,5-2,0 mm is combined with a hardness of the material of said inner flexible container (12) of approximately Shore A 85.
8. A reusable waste receptacle (10) as claimed in claim 4, wherein a thickness of said inner flexible container (12) of 1,5-5,0 mm is combined with a hardness of the material of said inner flexible container (12) of approximately Shore A 50.
9. A reusable waste receptacle (10) as claimed in claim 1, wherein said rigid supporting collar (24) is provided with a plurality of hollow extensions (28) fitting in apertures in said attachment section (22) of said inner flexible container (12) and in apertures of said rigid outer container (18).
10. A reusable waste receptacle (10) as claimed in claim 9, wherein pins (30) are formed to be pressed into said hollow extensions (28) so as to lock said inner flexible container (12) in a fixed position in said rigid outer container (18).
11. A method of emptying a reusable waste receptacle (10) as claimed in any of the preceding claims, **characterised by** pressing, through the open section at

the bottom of the rigid outer container (18), said closed bottom end (16) towards and past said open top end (14) using a hand while maintaining said open top end (14) in a fixed position in said rigid outer container (18), and by catching the grip section (26) and pulling said closed bottom end (16) towards and past said open top end (14) such that the closed bottom end (16) is pulled back into the rigid outer container (18) while maintaining said open top end (14) in a fixed position in said rigid outer container (18).

Patentansprüche

1. Ein wiederverwendbarer Abfallsammler (10) bestehend aus einem inneren flexiblen Behälter (12) und einem festen äußeren Behälter (18), in dem der innere flexible Behälter (12) ein oben offenes Ende (14), ein geschlossenes unteres Ende (16) und ein flexibles und zusammenfaltbares Fach (20) zwischen dem genannten offenen oberen Ende (14) und dem genannten geschlossenen unteren Ende (16) hat, wobei das genannte offene obere Ende (14) von einem Ansatzstück (22) umschlossen wird, in dem ein fester Stützkragen (24) angebracht ist, um das genannte Ansatzstück (22) am genannten äußeren Behälter (18) zu befestigen, worin der feste äußere Behälter (18) mit mindestens einer offenen Partie unten ausgestattet wird, und worin das geschlossene untere Ende (16) des inneren flexiblen Behälters (12) mit der Hand gedrückt werden kann, sodass die Abfälle im inneren flexiblen Behälter (12) aus dem offenen oberen Ende (14) und in einen Abfallcontainer (42) gedrückt werden **in einer Art und Weise, dass** eine Griffpartie (26) vom geschlossenen unteren Ende (16) des inneren flexiblen Behälters herausragt.
2. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 1 beschrieben, worin der genannte feste Stützkragen (24) eine geschlossene Kurve bildet.
3. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 1 beschrieben, worin der genannte feste Stützkragen (24) im genannten inneren flexiblen Behälter (12) angebracht wird, um den genannten inneren flexiblen Behälter (12) gegen eine Innenseite des genannten äußeren Behälters (18) zu drücken.
4. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 1 oder Antrag 2 beschrieben, worin das Material des genannten inneren flexiblen Behälters (12) eine Shore-Härte von A50-85 besitzt.
5. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 4 beschrieben, worin die Dicke des inneren flexiblen Behälters (12) 0,5-5,0 mm beträgt.

6. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 4 oder Antrag 5 beschrieben, worin eine größere Dicke des genannten inneren flexiblen Behälters (12) mit einem Material des genannten inneren flexiblen Behälters (12) kombiniert wird, das einen niedrigeren Shore A-Härtewert besitzt. 5
7. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 4 beschrieben, worin eine Dicke des genannten inneren flexiblen Behälters (12) von 0,5-2,0 mm kombiniert wird mit einer Materialhärte des genannten inneren flexiblen Behälters (12) von zirka Shore A 85. 10
8. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 4 beschrieben, worin eine Dicke des genannten inneren flexiblen Behälters (12) von 1,5-5,0 mm kombiniert wird mit einer Materialhärte des genannten inneren flexiblen Behälters (12) von zirka Shore A 50. 15 20
9. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 1 beschrieben, worin der genannte feste Stützkragen (24) mit einer Mehrzahl von innen hohlen Erweiterungen (28) versehen wird, die in Öffnungen im genannten Ansatzstück (22) des genannten inneren flexiblen Behälters (12) und in Öffnungen des genannten äußeren Behälters (18) passen. 25
10. Ein wiederverwendbarer Abfallsammler (10) wie in Antrag 9 beschrieben, worin Zapfen (30) so geformt sind, dass sie in die genannten hohlen Erweiterungen (28) gedrückt werden können, um den genannten inneren flexiblen Behälter (12) in einer festen Position im genannten festen äußeren Behälter (18) zu arretieren. 30 35
11. Eine Methode zur Leerung eines wiederverwendbaren Abfallsammlers (10) wie in jeder der vorangehenden Anträge beschrieben, **in der Art und Weise**, dass mittels Drücken durch die offene Partie am Boden des festen äußeren Behälters (18) das genannte geschlossene untere Ende (16) in Richtung des und vorbei am genannten offenen oberen Ende (14) mit der Hand gedrückt wird, während das genannte offene obere Ende (14) in einer festen Position im genannten festen äußeren Behälter (18) bleibt, und indem man die Griffpartie (26) fasst und das genannte geschlossene untere Ende (16) in Richtung des und vorbei am offenen oberen Ende (14) auf solche Weise zieht, sodass das geschlossene untere Ende (16) zurück in den festen äußeren Behälter (18) gezogen wird, während das genannte offene obere Ende (14) in einer festen Position im genannten festen äußeren Behälter (18) verbleibt. 40 45 50 55

Revendications

1. Une poubelle réutilisable (10) composée par un récipient intérieur flexible (12) et un récipient extérieur rigide (18), dans laquelle le récipient interne flexible (12) est **caractérisé par** une partie supérieure ouverte (14), une partie inférieure fermée (16) et une partie flexible et pliante (20) fournie par la partie supérieure ouverte mentionnée (14) et par la partie inférieure fermée mentionnée (16), la partie supérieure ouverte mentionnée (14) est enfermée dans un dispositif d'attachement (22), dans lequel un collier de soutien rigide (24) est arrangé pour attacher le dispositif d'attachement mentionné (22) au récipient externe rigide mentionné (18), dans lequel le récipient externe rigide (18) est formé par au moins une partie ouverte au fond, et où la partie inférieure fermée (16) du récipient interne flexible (12) peut être pressée en utilisant la main de façon à ce que les déchets dans récipient interne flexible (12) soient forcés dehors de la partie supérieure ouverte (14) et dans un récipient pour l'élimination des déchets (42), **caractérisé par** une poignée (26) qui s'étend de la partie inférieure fermée (16) du récipient interne flexible. 5
2. Une poubelle réutilisable (10) comme déclaré dans la déclaration 1, dans laquelle le rigide collier de soutien mentionné (24) forme une courbe fermée. 10
3. Une poubelle réutilisable (10) comme déclaré dans la déclaration 1, dans laquelle le rigide collier de soutien mentionné (24) est disposé dans le récipient intérieur flexible mentionné (12) pour presser le récipient intérieur flexible mentionné (12) contre une surface à l'intérieur du récipient extérieur rigide mentionné (18). 15 20
4. Une poubelle réutilisable (10) comme déclaré dans la déclaration 1 ou dans la déclaration 2, dans laquelle la matière du récipient intérieur flexible mentionné (12) a une dureté de Shore A50-85. 25
5. Une poubelle réutilisable (10) comme déclaré dans la déclaration 4, dans laquelle l'épaisseur du récipient intérieur flexible (12) est 0,5-5,0 mm. 30
6. Une poubelle réutilisable (10) comme déclaré dans la déclaration 4 ou dans la déclaration 5, dans laquelle une plus grande épaisseur du récipient intérieur flexible mentionné (12) est combinée avec une matière du récipient intérieur flexible mentionné (12) qui a une plus basse valeur de dureté de Shore. 35
7. Une poubelle réutilisable (10) comme déclaré dans la déclaration 4, dans laquelle une épaisseur du récipient intérieur flexible mentionné (12) de 0,5-2,0 mm est combinée avec une dureté de la matière du récipient intérieur flexible mentionné (12) de approxi- 40 45 50 55

mativement Shore A 85.

8. Une poubelle réutilisable (10) comme déclaré dans la déclaration 4, dans laquelle une épaisseur du récipient intérieur flexible mentionné (12) de 0,5-2,0 mm est combinée avec une dureté de la matière du récipient intérieur flexible mentionné (12) de approximativement Shore A 50. 5

9. Une poubelle réutilisable (10) comme déclaré dans la déclaration 1, dans laquelle le collier de soutien mentionné (24) est fourni de plusieurs extensions percés (28) qui sont bien insérés dans les ouvertures du dispositif d'attachement mentionné (22) du récipient intérieur flexible mentionné (12) et dans les ouvertures du mentionné récipient extérieur rigide (18). 10
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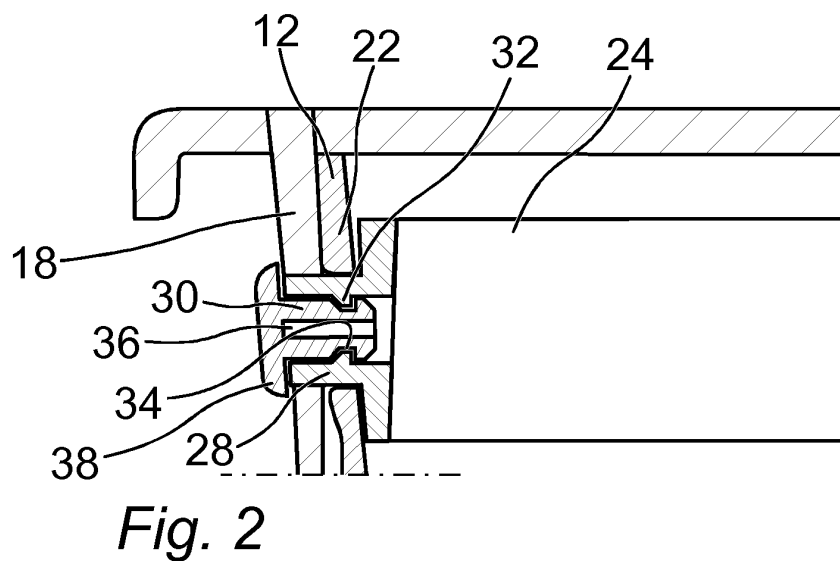
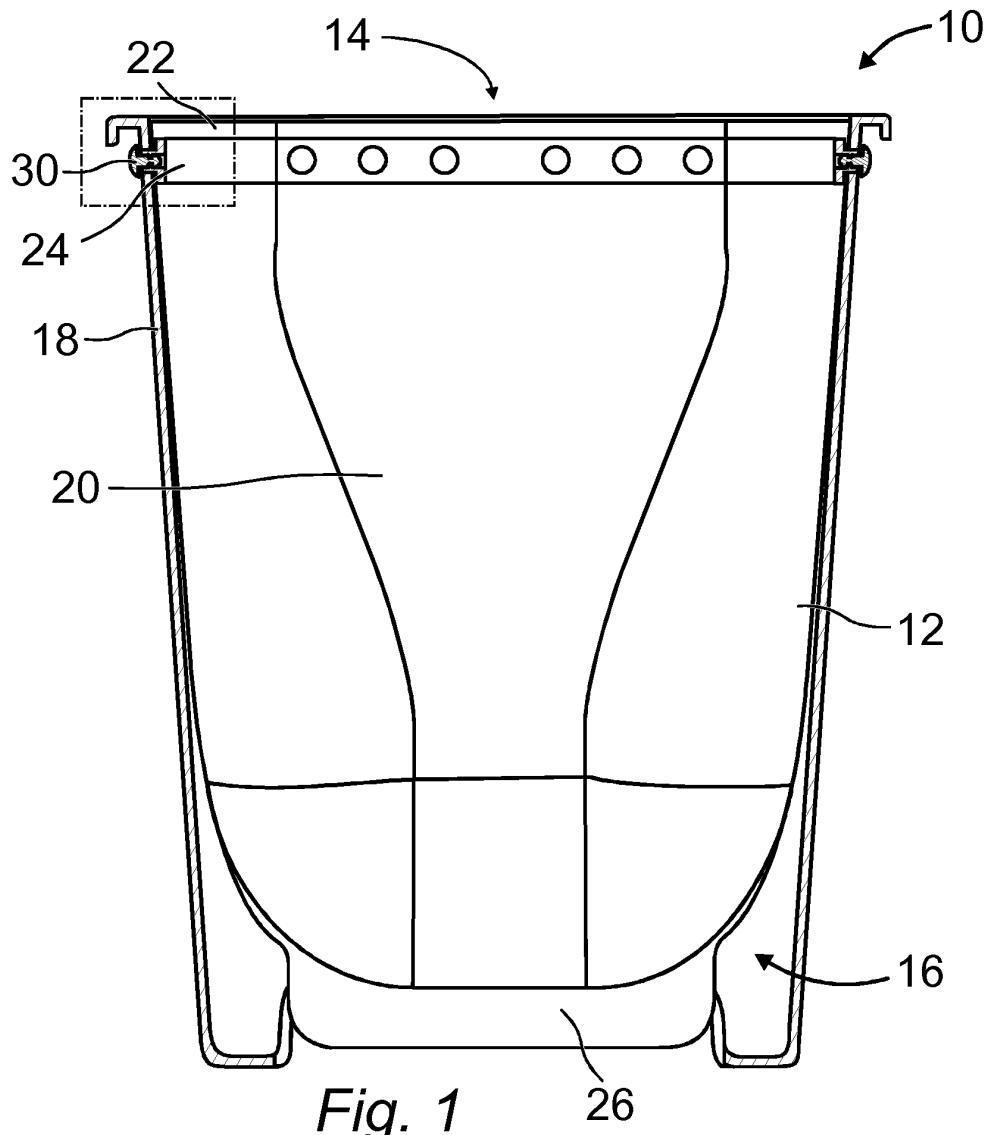
10. Une poubelle réutilisable (10) comme déclaré dans la déclaration 9, dans laquelle les broches (30) sont fabriquées pour être pressées dans les extensions percés mentionnées (28) pour serrer le récipient intérieur flexible mentionné (12) dans une position fixe dans le récipient extérieur rigide mentionné (18). 20
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11. Une méthode pour vider une poubelle réutilisable (10) comme déclaré dans les déclarations précédentes, est **caractérisée par** le pressage, à travers la partie ouverte au fond du récipient externe rigide (18), de la partie inférieure fermée mentionnée (16) vers et devant la partie supérieure ouverte mentionnée (14) en utilisant une main pendant que la partie supérieure ouverte mentionnée (14) est maintenue dans une position fixe dans le récipient externe rigide mentionné (18), et en prenant la poignée (26) et en tirant la partie inférieure fermée mentionnée (16) vers et devant la partie supérieure ouverte mentionnée (14) de façon à ce que la partie inférieure fermée (16) soit retirée dans le récipient externe rigide (18) pendant que la partie supérieure ouverte mentionnée (14) est maintenue dans une position fixe dans le récipient externe rigide mentionné (18). 30
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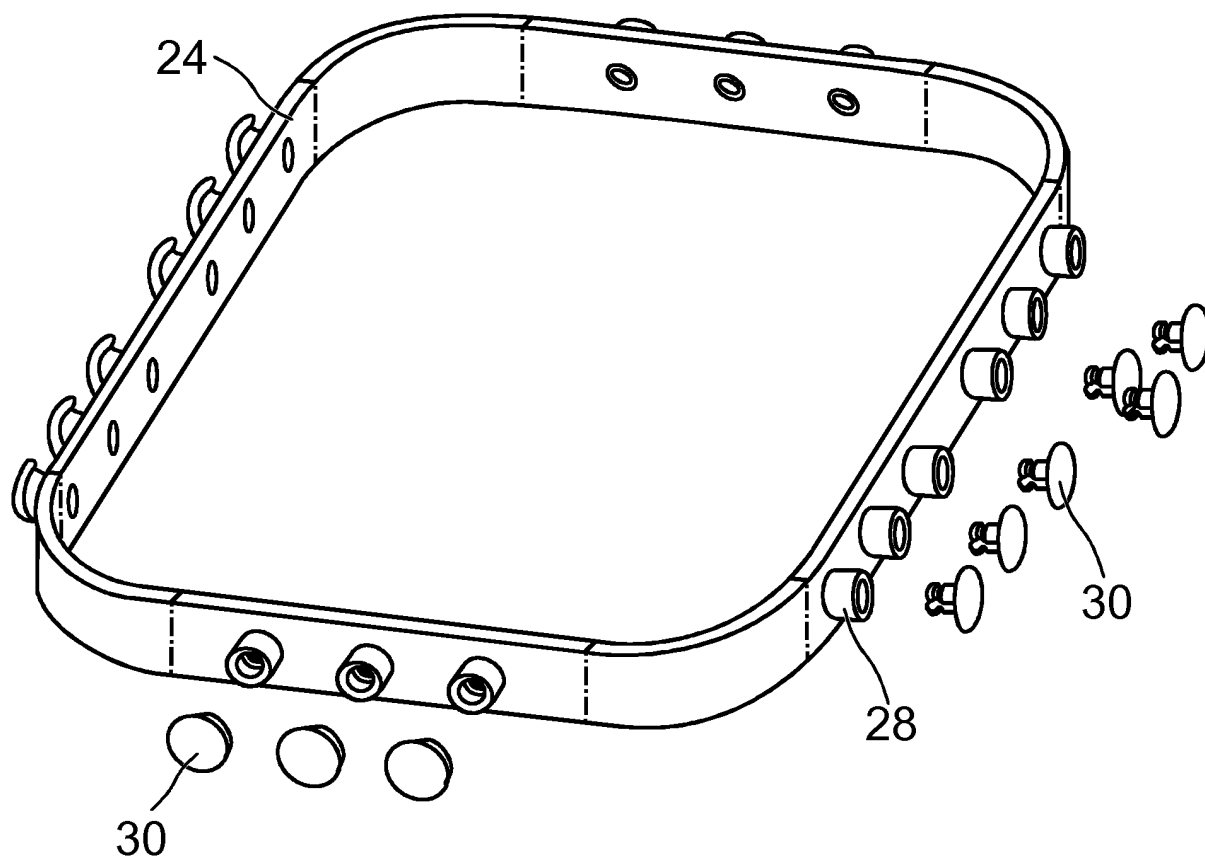


Fig. 3

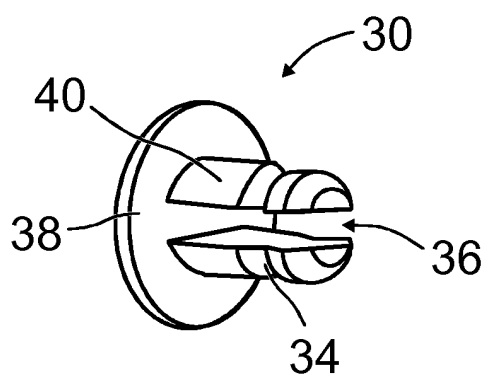


Fig. 4

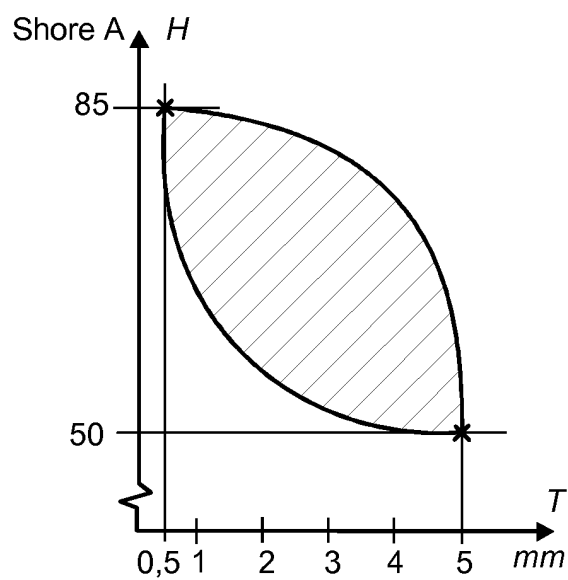


Fig. 7

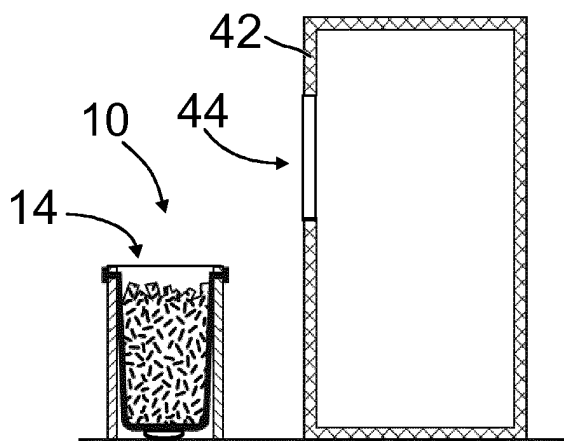


Fig. 5a

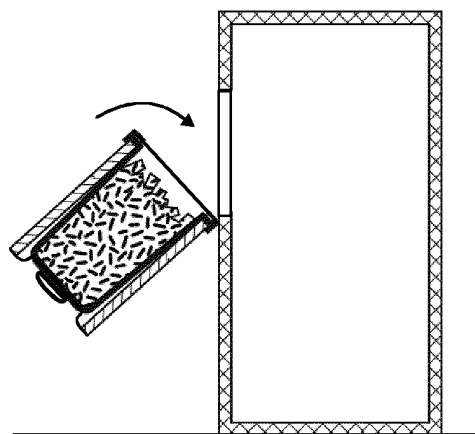


Fig. 5b

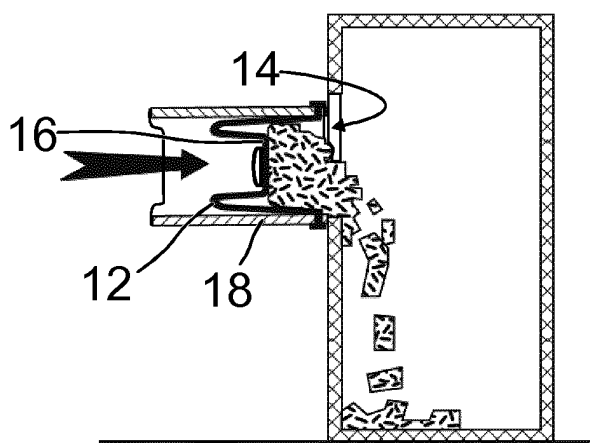


Fig. 5c

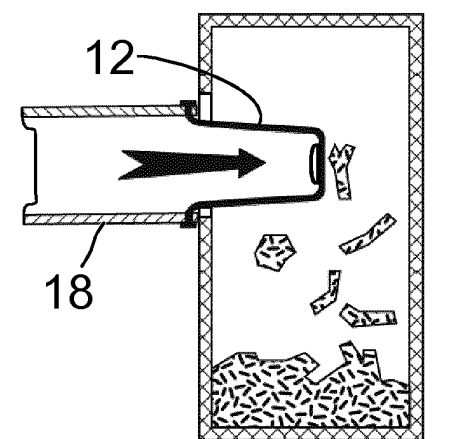


Fig. 5d

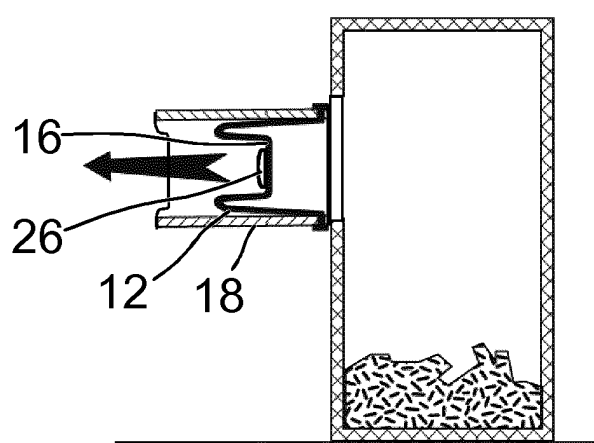


Fig. 5e

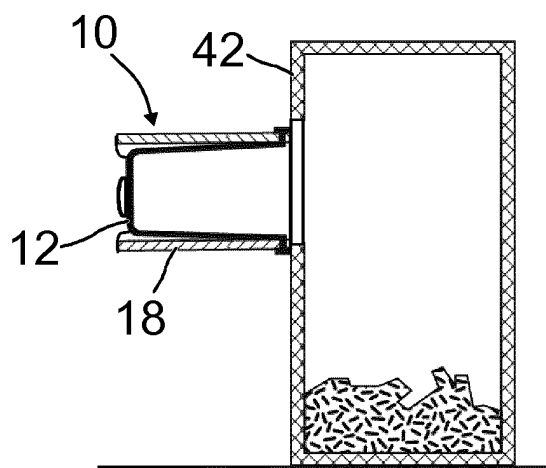


Fig. 5f

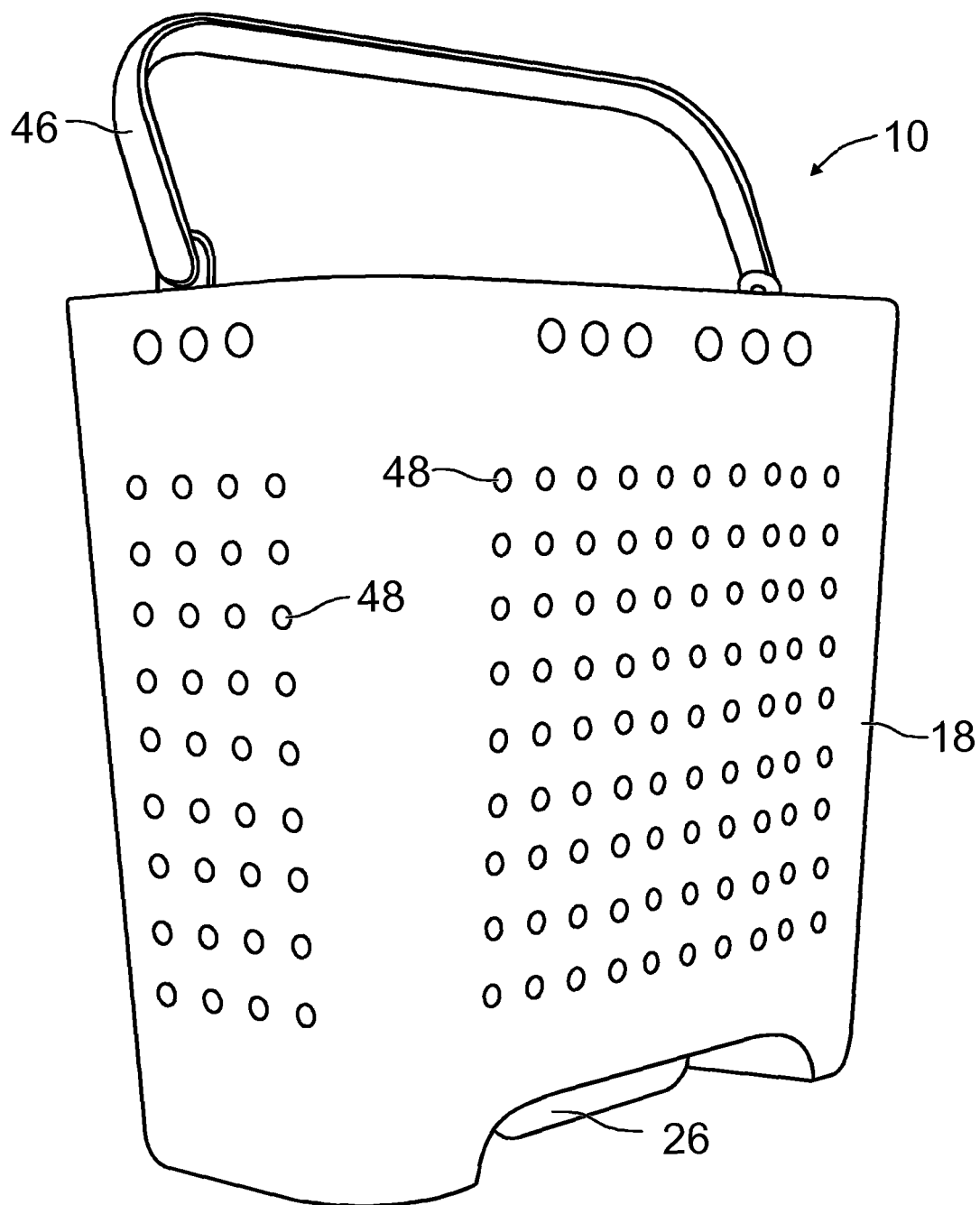


Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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