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(54) **ASSEMBLY FOR COLLECTING REFUSE**

ANORDNUNG ZUM SAMMELN VON MÜLL

ENSEMBLE DE COLLECTE DE DECHETS

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• **HAKANSSON, Dan**

28149 Hässleholm (SE)

(30) Priority: **04.04.2003 NL 1023109**

(74) Representative: **Müller, Thomas**

Patentanwalt

Müller & Schubert

Innere Wiener Strasse 13

81667 München (DE)

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(73) Proprietor: **ESE World B.V.**

6199 AM Maastricht-Airport (NL)

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(72) Inventors:

• **HEDENSTROM, Björn**

S-254 50 Helsingborg (SE)

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Description

[0001] The present invention relates to an assembly for collecting refuse according to the preamble of claim 1.

[0002] For the collection of refuse such as domestic refuse or small commercial waste, use is usually made of containers in which the refuse is temporarily stored. This refuse is collected by a refuse collecting service by means of refuse collection trucks. An advantage of the use of such containers is that a certain quantity of refuse can be stored temporarily, and be presented to the refuse collection service in practical manner. The refuse collection trucks are adapted to the use of the containers in that lifting devices can pick up the containers and the refuse can hereby be tipped into the refuse collection truck without manpower.

[0003] Recently the need has arisen to separate diverse types of refuse at source, whereby different refuse flows can be processed separately.

[0004] Known for this purpose is a container with a separating wall whereby two compartments are created in the container, whereby refuse can be processed in two fractions. Further known are insert units with two fixed bins for the possibility of separate processing of four fractions of refuse.

[0005] The French patent application FR 2 719 031 discloses an assembly with a holder that can be added to an existing conventional container by a frame. The subject matter of this publication has a series of disadvantages. The holder is fixed in front of the container, so that shifts the centre of gravity to the front of the assembly. The assembly loses its save stand. The accessibility to the refuse compartment of the container is declined, because the holder is partially the way. The outer dimensions of the assembly are unnecessarily increased. Additionally the holder needs an extra lid to prevent for rain-water entering the holder or unpleasant odours escaping from it, which makes the holder more complex and more expensive to manufacture. FR 2 791 031 furthermore allows only one single holder to be used, which limits the amount of available compartments for refuse fractions in the assembly.

[0006] German utility model DE 295 20 627 U1 shows an assembly, wherein the holders are positioned in a frame provided by the main container. The holders are meant to be fixed permanently to the container and are too large to be easily transported from and to the location of the container. The holders build a unit with the container and cannot be easily emptied successively to the container. Also already existing conventional containers cannot be used when falling back on the teaching of DE 295 20 627 U1.

[0007] German utility model DE 297 21 842 U1 describes an assembly according to the preamble of claim 1, wherein a reduction-container can be placed in the original container, thereby creating a smaller usable container volume. The assembly does not allow the separation of diverse types of refuse. Once the reduction-con-

tainer is inserted into the original container, the original container volume is not accessible any more.

[0008] UK patent application GB 2 279 551 A describes a waste disposal kit, said kit comprising a shell, a segmented frame, four identical individual compartments which slot into the housing provided by the frame and a cover. However, such a waste receptacle cannot be handled by lifting devices of a refuse collection truck.

[0009] To avoid the disadvantages of the known solutions, the present invention provides an assembly for collecting refuse according to claim 1. Such an assembly allows the holders to be adapted to the desired uses of companies, households and/or refuse collecting services.

[0010] The holders can further be cleaned in practical manner. A loose holder can for instance be filled separately at a different location from the container or the frame and then easily transferred to the location of the container.

[0011] According to the invention the frame comprises second engaging means for engaging grippers for emptying the holder. For the separate processing of refuse fractions it is recommended that the content of the holders and the content of the rest of the container can be emptied successively. Using this embodiment, the frame with the holders is lifted out of or from the container, whereby the holders can be emptied separately of the container. A further advantage of the engaging means is that the frame can be picked up by means of lifting means of the refuse truck, whereby emptying can be performed mechanically. Despite the possibly small volume of the holders, exhaustive use of manpower is unnecessary.

[0012] The frame preferably comprises positioning means for engaging the edge of the container and/or the upper edge of the container comprises complementary positioning means for engagement of the positioning means thereon. Such positioning means have for instance the advantage that placing of the frame on the container can be carried out in simple manner. An approximate positioning of the frame is for instance sufficient in this embodiment for an exact positioning. Such positioning means are further useful for holding the frame in place, whereby the frame is present in a stable manner on the container.

[0013] In a further preferred embodiment, the container comprises at least one separating wall. The combination of such a separating wall with a frame creates a refuse container with four compartments for four different refuse fractions.

[0014] The holders are preferably attached releasably in the frame by means of attaching means such as snap elements, screw elements or sliding means for attaching the holder to the frame. It is however also possible to envisage permanent fixing of the different holders to the frame, for instance via welding or glueing of holders to the frame.

[0015] In a further preferred embodiment, the holder comprises openings for ventilation or weight reduction.

[0016] Preferably, the holder has a volume of 5 - 80 litres and the container has a volume of 40 - 1000 litres.

[0017] Further advantages, features and details of the present invention will be elucidated on the basis of the description of an embodiment with reference to the annexed figure:

- fig. 1 shows a combination of diverse embodiments in exploded perspective view.

[0018] A container 1 comprises a base and four side walls 11, 12, 13, 14. An upper edge 5 is situated on the top side of the side walls. A frame 2 can be placed on this upper edge 5.

[0019] Two (collecting) holders 3, 4 can be arranged in frame 2.

[0020] At the rear the container has handles and hinge means 17 for handling the container and for hinged mounting of lid 6.

[0021] The container is further provided with separating wall 15 for dividing the waste compartment from front to rear into two waste compartments. It hereby becomes possible in known manner to separate waste into two fractions.

[0022] Frame 2 is provided with two locations for arranging collecting holders 3, 4. The frame is formed by base plate 20 on which an edge 7 is arranged as well as strengthening parts.

[0023] Extending on the underside of base plate 20 is a wall 22 which is further attached to base plate 20 by means of strengthening ribs 21.

[0024] Base plate 20 together with front wall 22 and strengthening ribs 21 serve as engaging means for lifting means of a refuse truck for the purpose of emptying holders 3, 4.

[0025] Holders 3, 4 can be attached in frame 2 by sliding in the holders by means of edges 18 and grooves 35, 38. The figure shows an embodiment wherein the holders are pushed into the frame from the rear. This is also possible for instance from the side(s), the front, the underside or the top.

[0026] Alternative methods of attaching the holders in the frame are by means of a snap mechanism or a screw mechanism.

[0027] An advantage of the present embodiment is that holders 3, 4 of different size can be arranged in frame 2 in accordance with the requirement of the users. Standard frames can hereby be applied while simultaneously applying a variety of holders.

[0028] Holder 4 comprises four side walls 26, 27, 28, 29 and an upper edge 25 in which is arranged groove 35. In similar manner holder 3 comprises four side walls 31, 32, 33, 34 and an upper edge 36 in which is arranged groove 38. Holder 3 is further provided with openings 37 which decrease the weight of the holder. The openings are also suitable for ventilating the content of the holder. An organic waste fraction for instance can hereby be kept relatively dry, optionally with the use of a paper bag. For

the purpose of keeping organic fractions dry in such a container, it is further possible to give the container a ventilated form, for instance by leaving open a channel between edge 5 and lid 6.

5 [0029] In a particular embodiment the volume of the container is for instance 370 litres, it can be loaded with 150 kg, it has a wheel of 300 mm, a width of 745 mm, a depth of 860 mm, a total height of 1070 mm, a container height of 960 mm, and is manufactured from a green plastic which can be applied at ambient temperatures of -40°C to +80°C. The frame is in this case modified to fit round the edge of the container. The holders are hereby placed on the inside of the container during placing of the frame. The lid of the container is closable over the assembly of container and frame. The assembly or the individual parts are preferably manufactured from one or more plastics suitable for refuse containers. The invention is not limited to the above described embodiments; many modifications can be made by the skilled person within the scope as defined by the appended claims.

Claims

- 25 1. Assembly for collecting refuse, refuse collected by said assembly being collected by a refuse collecting service means of refuse collecting trucks, said assembly comprising:
 - 30 - a container (1) comprising a base and one or more side walls (11, 12, 13, 14) extending from the base to an upper edge (5),
 - wherein the base and the side walls (11, 12, 13, 14) of said container (1) provide at least one waste compartment for a refuse fraction,
 - 35 - a frame (2) placed on the upper edge (5) of the container (1),
 - at least one holder (3, 4) placed in the frame (2), wherein each holder (3, 4) provides another compartment for a refuse fraction, and wherein the at least one holder (3, 4) is placed inside the container (1) during placing of the frame (2) on the upper edge (5) of the container (1),
 - 40 - and wherein said container (1) further comprising first engaging means for engaging grippers for emptying the container (1), **characterized in that** said frame (2) further comprises second engaging means for engaging grippers for emptying the at least one holder (3, 4).
- 45 2. Assembly as claimed in claim 1, wherein the frame (2) comprises positioning means for engaging the upper edge (5) of the container (1).
- 50 3. Assembly as claimed in claim 2, wherein the upper edge (5) of the container (1) comprises complementary positioning means for engagement of the positioning means thereon.

4. Assembly as claimed in one or more of the foregoing claims, wherein the container (1) comprises at least one separating wall (15).
5. Assembly as claimed in one or more of the foregoing claims, wherein the frame (2) and the at least one holder (3, 4) comprise attaching means (18, 35, 38) for attaching the at least one holder (3, 4) to the frame (2).
6. Assembly as claimed in one or more of the foregoing claims, wherein the container (1) comprises a lid (6).
7. Assembly as claimed in claim 5, wherein the attaching means comprise slide means (18, 35, 38).
8. Assembly as claimed in claim 5, wherein the attaching means comprise snap elements.
9. Assembly as claimed in claim 5, wherein the attaching means comprise screw elements.
10. Assembly as claimed in one or more of the foregoing claims, wherein the at least one holder (4) comprises openings (37) for ventilation.
11. Assembly as claimed in one or more of the foregoing claims, wherein the at least one holder (3, 4) has a volume of 5 - 80 litres and the container (1) has a volume of 40 - 1000 litres.

Patentansprüche

1. Anordnung zum Sammeln von Abfall, wobei durch die Anordnung gesammelter Abfall mittels eines Abfall-Sammelfahrzeugs durch einen Abfall-Sammel-service gesammelt wird, wobei die Anordnung aufweist:
 - einen Container (1) aufweisend einen Boden und eine oder mehrere Seitenwände (11, 12, 13, 14), die sich von dem Boden zu einer oberen Kante (5) erstrecken,
 - wobei der Boden und die Seitenwände (11, 12, 13, 14) des Containers (1) mindestens ein Abfall-Abteil für eine Abfallfraktion bereitstellen,
 - einen Rahmen (2), der auf der oberen Kante (5) des Containers (1) platziert ist,
 - mindestens einen Behälter (3, 4), der in dem Rahmen (2) platziert ist, wobei jeder Behälter (3, 4) ein anderes Abteil für eine Abfallfraktion bereitstellt, und wobei der mindestens eine Behälter (3, 4) während der Platzierung des Rahmens (2) auf der oberen Kante (5) des Containers (1) innerhalb des Containers (1) platziert ist,
 - und wobei der Container (1) weiterhin erste

Eingriffsmittel für das in Eingriff bringen von Greifern zum Entleeren des Containers (1) aufweist, **dadurch gekennzeichnet, dass** der Rahmen (2) weiterhin zweite Eingriffsmittel für das in Eingriff bringen von Greifern zum Entleeren des wenigstens einen Behälters (3, 4) aufweist.

2. Anordnung nach Anspruch 1, bei der der Rahmen (2) Positionierungsmittel aufweist, um mit der oberen Kante (5) des Containers (1) in Eingriff gebracht zu werden.
3. Anordnung nach Anspruch 2, bei der die obere Kante (5) des Containers (1) komplementäre Positionierungsmittel für das in Eingriff bringen der Positionierungsmittel darauf aufweist.
4. Anordnung nach einem oder mehreren der vorhergehenden Ansprüche, bei der der Container (1) wenigstens eine Trennwand (15) aufweist.
5. Anordnung nach einem oder mehreren der vorhergehenden Ansprüche, bei der der Rahmen (2) und der wenigstens eine Behälter (3, 4) Befestigungsmittel (18, 35, 38) aufweisen, um den wenigstens einen Behälter (3, 4) an dem Rahmen (2) zu befestigen.
6. Anordnung nach einem oder mehreren der vorhergehenden Ansprüche, bei der der Container (1) einen Deckel (6) aufweist.
7. Anordnung nach Anspruch 5, bei der die Befestigungsmittel Gleitmittel (18, 35, 38) aufweisen.
8. Anordnung nach Anspruch 5, bei der die Befestigungsmittel Schnappelemente aufweisen.
9. Anordnung nach Anspruch 5, bei der die Befestigungsmittel Schraubenelemente aufweisen.
10. Anordnung nach einem oder mehreren der vorhergehenden Ansprüche, bei der der wenigstens eine Behälter (4) Öffnungen (37) für die Ventilation aufweist.
11. Anordnung nach einem oder mehreren der vorhergehenden Ansprüche, bei der der wenigstens eine Behälter (3, 4) ein Volumen von 5 bis 80 Litern und der Container (1) ein Volumen von 40 bis 1000 Litern hat.

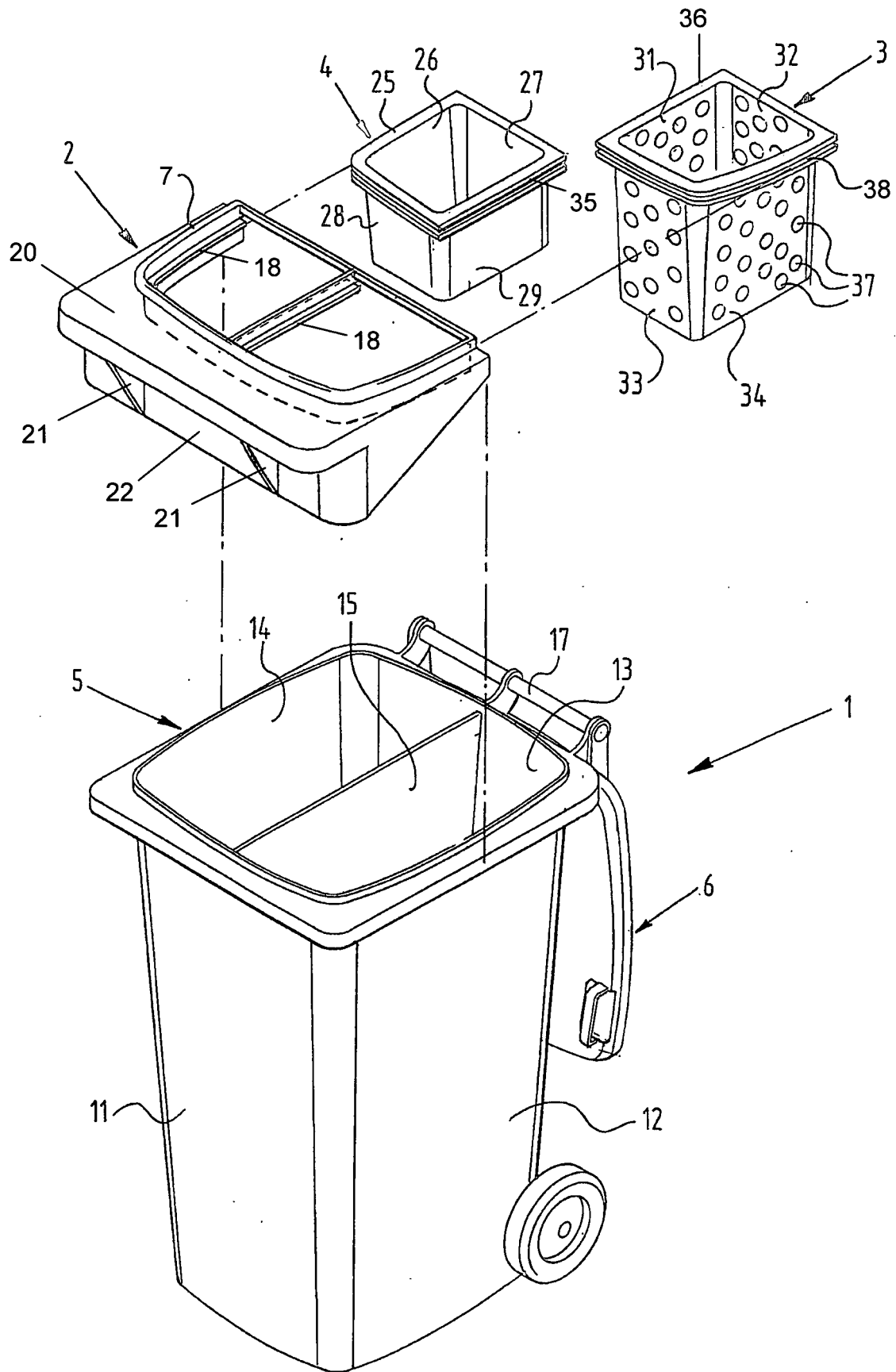
Revendications

1. Ensemble de collecte de déchets, les déchets collectés par ledit ensemble étant collectés par un service de collecte de déchets au moyen de camions

de collecte de déchets, ledit ensemble comprenant :

- un conteneur (1) comprenant une base et une ou plusieurs parois latérales (11, 12, 13, 14) s'étendant depuis la base jusqu'à un bord supérieur (5),
 - dans lequel la base et les parois latérales (11, 12, 13, 14) dudit conteneur (1) forment au moins un compartiment à déchets pour une fraction des déchets,
 - un châssis (2) placé sur le bord supérieur (5) du conteneur (1),
 - au moins un élément de retenue (3, 4) placé sur le châssis (2), dans lequel chaque élément de retenue (3, 4) forme un autre compartiment pour une fraction des déchets, et dans lequel le ou les éléments de retenue (3, 4) sont placés à l'intérieur du conteneur (1) pendant la mise en place du châssis (2) sur le bord supérieur (5) du conteneur (1),
 - et dans lequel ledit conteneur (1) comprend en outre des premiers moyens de couplage destinés à se coupler à des éléments de saisie afin de vider le conteneur (1), **caractérisé en ce que** ledit châssis (2) comprend en outre des seconds moyens de couplage destinés à se coupler à des éléments de saisie afin de vider le ou les éléments de retenue (3, 4).
2. Ensemble selon la revendication 1, dans lequel le châssis (2) comprend des moyens de positionnement destinés à se coupler au bord supérieur (5) du conteneur (1).
3. Ensemble selon la revendication 2, dans lequel le bord supérieur (5) du conteneur (1) comprend des moyens de positionnement complémentaires destinés à assurer le couplage des moyens de positionnement sur celui-ci.
4. Ensemble selon une ou plusieurs des revendications précédentes, dans lequel le conteneur (1) comprend au moins une paroi de séparation (15).
5. Ensemble selon une ou plusieurs des revendications précédentes, dans lequel le châssis (2) et le ou les éléments de retenue (3, 4) comprennent des moyens de fixation (18, 35, 38) destinés à fixer le ou les éléments de retenue (3, 4) sur le châssis (2).
6. Ensemble selon une ou plusieurs des revendications précédentes, dans lequel le conteneur (1) comprend un couvercle (6).
7. Ensemble selon la revendication 5, dans lequel les moyens de fixation comprennent des moyens coulissants (18, 35, 38).

8. Ensemble selon la revendication 5, dans lequel les moyens de fixation comprennent des éléments à encliqueter.
9. Ensemble selon la revendication 5, dans lequel les moyens de fixation comprennent des éléments à vis.
10. Ensemble selon une ou plusieurs des revendications précédentes, dans lequel le ou les éléments de retenue (4) comprennent des ouvertures (37) afin d'assurer la ventilation.
11. Ensemble selon une ou plusieurs des revendications précédentes, dans lequel le ou les éléments de retenue (3, 4) présentent un volume de 5 à 80 litres et le conteneur (1) présente un volume 40 à 1000 litres.



REFERENCES CITED IN THE DESCRIPTION

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