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(54) **An urban waste dustbin with vertical load opening**

Hausmüllbehälter mit vertikaler Ladeöffnung

Récipient à déchets urbains avec ouverture verticale de chargement

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Description

[0001] The present finding relates to an urban waste dust-bin for the mechanized collection of rubbish.

[0002] As known, wide-mouthed containers for urban waste, so-called "dust-bins", for the mechanized collection of rubbish presently available on the market are standardized as for design, construction, volume, size, materials (high-density polyethylene, polyester reinforced with glass fibres or PRFV, zinc plated steel, aluminium alloy), type of lid (flat or dome lid swinging or not), movable-on-wheels or stationary bins, etc.

[0003] In any case, independently of their volume and material the bins consist of two main members/groups, i.e. a tank and a (flat or swinging) lid.

[0004] Further devices (generally a pedal) for opening the lid by the user and those operated by the dust-cart upon emptying the bin can also be added.

[0005] From CA-A-2 232 121 an urban waste dust-bin according to the preamble of claim 1 is known comprising a covering member with a handle on one side of the covering member wherein the lid is hinged at the upper side of the covering member and opens by gravity upon upending the dust-bin. However, in order to insert the dust into the dust-bin, the users have to open one of three doors provided on the front or on the lateral side of the body of the dust-bin, or use openings on a fixed part of the covering member.

[0006] The invention aims at providing a dust-bin as well as an assembly kit to modify dust-bins presently in use by proposing a solution allowing:

1. the likelihood of a damage of the dust-bin and its components to be reduced by simplifying the construction;
2. the urban decorum to be improved by keeping the original state of the dust-bin unchanged;
3. the design to be improved;
4. the noise to be reduced especially upon emptying;
5. the access for the user to be improved;
6. the safety level to be increased (by avoiding moving parts);
7. the construction withstand to be increased by extending the mean life of the dust-bin.

[0007] This has been accomplished by an urban-waste dust-bin comprising the features of claim 1 and an assembly kit according to claim 3.

[0008] The emptying of rubbish occurs through only one inclined lid (provided with handle) which is hinged at the upper side and opens by gravity upon upending the dust-bin.

[0009] Advantageously, the finding disclosed can be applied to all types of urban waste dust-bins independent of their volume (the solution is preferably applicable from 600 litres to 3200 litres), the building material, and the mobility of the dust-bin.

[0010] The description of the invention will more readily

be understood with reference to the accompanying drawings that show by way of example two preferred embodiments thereof. In particular:

Fig. 1 shows a dust-bin of conventional type;

Fig. 2 shows a perspective view of a dust-bin according to the finding with only one load opening at the access side;

Fig. 3 shows a view of the same dust-bin from the opposite side;

Fig. 4 shows an assembling kit to be applied to the tank body of an already existing dust-bin to transform it into a dust-bin according to the present finding.

[0011] With reference to the figures, the dust-bins of Fig. 2 has an asymmetric shape as it looks essentially like a right parallelepiped having at the user's side a vertical load opening 6 with a size equal to the width of the front side of the dust-bin 8.

[0012] As can be seen in the figure, the load opening 6 is protected by rubber straps 10 that close the dust-bin to safeguard sanitation. The emptying of the waste occurs through the inclined lid 12 provided with handle 14 and hinged at the upper side to the covering member is of dust-bin 8 which opens by gravity. Lid 12 can be opened at the opposite side of the load opening 6, i.e. the road side (discharge side).

By the proposed solution:

■ problems connected to the opening of the lid are avoided as the lid is opened only by gravity. Such problems occurs in the present containers whether the pedal is present or not and increase in case of failure of the pedal;

■ the problem of the stench produced by the more or less swift lid closure movement (depending on the lid shock-absorbers) and evil smelling for the user upon introducing the waste into the container is solved;

■ the following dangerous situations for the user due to the pedal are avoided:

i) the poor balance of the user upon pressing the pedal by a proper force;

ii) raising of one leg more than necessary in case whether the pavement is far away of the dust-bin or its pedal is adjusted at such a height that needs the presence of a nearby pavement, with the risk of falling back, a dangerous situation especially if the load opening is directed to road side.

iii) loss of balance when the user rests with one foot on the pavement and presses with the other foot the pedal of a dust-bin far away from the pavement, thus running the risk of falling to the load opening and hitting the lid which is being lowered because of the missing pressing force of the user who is losing his/her balance;

- the ergonomics of throwing waste into the dust-bin is improved as the user takes no further interest in the pedal because he/she has not to press it anymore and can concentrate on the throwing action using both hands, for example;
- because of its easier use, the dust-bin is less "exclusive" with regard to weaker users such as old people, children, disabled, etc.;
- users have less contacts with the dust-bins as it is the case if the pedal is broken;
- the cost of the dust-bin is reduced as the lid opening means are missing;
- the maintenance of the dust-bin is simplified as the moving parts are less.

Fig. 4 shows an assembling kit to modify an already existing dust-bin. It essentially consists of a covering member with a prismatic shape generally indicated at 18, with a vertical load opening 6 directed to the user's side, two side walls 20 and an inclined lid 12 hinged at 16 which opens to the road side.

The assembling is easy: after removal of the existing lid and the opening device, covering member 18 is applied to tank 4.

Claims

1. An urban waste dust-bin (8) for the mechanized collection of rubbish, comprising a covering member (18) with a prismatic shape and an inclined lid (12) provided with a handle (14) on one side of the covering member (18), the lid (12) being hinged (16) at the upper side of the covering member (18) for opening by gravity upon upending the dust-bin (8) **characterized by** a vertical load opening (6) on the opposite side of the covering member (18) with a size equal to the width of the front side of the dust-bin (8) and protected by rubber straps (10) to safeguard sanitation.
2. The dust-bin according to claim 1 **characterized in that** the hinge (16) of the lid (12) is at a height which is not lower than the upper edge of the vertical load opening (6) to ensure the emptying of the bin and to avoid stagnancy of rubbish.
3. An assembly kit for dust-bins (8) for the mechanized collection of rubbish, comprising a covering member (18) with a prismatic shape and an inclined lid (12) provided with a handle (14) on one side, the lid (12) being hinged (16) at the upper side of the covering member (10) for opening by gravity upon upending the dust-bin **characterized by** said covering member (18) having a vertical load opening (6) on the opposite side with a size equal to the width of the front side of the dust-bin (8) and two side walls (20) whereby the vertical load opening (6) is protected by

rubber straps (10) to safeguard sanitation.

Patentansprüche

1. Hausmüllbehälter (8) zur mechanisierten Sammlung von Müll, der ein Abdeckelement (18) in Prismaform und einen geneigten Deckel (12) aufweist, der an einer Seite des Abdeckelements (18) mit einem Griff (14) versehen ist, wobei der Deckel (12) an der Oberseite des Abdeckelements (18) angelenkt (16) ist und sich durch Schwerkraft öffnet, wenn der Müllbehälter (8) gekippt wird, **gekennzeichnet durch** eine vertikale Ladeöffnung (6) an der gegenüberliegenden Seite des Abdeckelements (18), deren Größe gleich ist der Breite der Vorderseite des Müllbehälters (8) und die **durch** Kautschukstreifen (10) zur Wahrung der Hygiene geschützt ist.
2. Müllbehälter nach Anspruch 1, **dadurch gekennzeichnet, dass** das Scharnier (16) des Deckels (12) auf einer Höhe liegt, die nicht tiefer ist als die Oberkante der vertikalen Ladeöffnung (6), um das Entleeren des Behälters sicherzustellen und das Verbleiben von Müll zu verhindern.
3. Bausatz für Müllbehälter (8) zur mechanisierten Sammlung von Müll, der ein Abdeckelement (18) in Prismaform und einen geneigten Deckel (12) aufweist, der an einer Seite mit einem Griff (14) versehen ist, wobei der Deckel (12) an der Oberseite des Abdeckelements (18) zum Öffnen durch Schwerkraft angelenkt (16) ist, **dadurch gekennzeichnet, dass** das Abdeckelement (18) eine vertikale Ladeöffnung (6) an der gegenüberliegenden Seite hat, deren Größe gleich ist der Breite der Vorderseite des Müllbehälters (8), sowie zwei Seitenwände (20), wobei die vertikale Ladeöffnung (6) durch Kautschukstreifen (10) zur Wahrung der Hygiene geschützt ist.

Revendications

1. Poubelle pour déchets urbains (8) pour la collecte mécanisée d'ordures, comportant un élément de couverture (18) de forme prismatique et un couvercle incliné (12) équipé d'une poignée (14) d'un côté de l'élément de couverture (18), le couvercle (12) étant articulé (16) sur la face supérieure de l'élément de couverture (18) pour s'ouvrir par gravité lors du retournement de la poubelle (8), **caractérisée par** une ouverture verticale de chargement (6) située du côté opposé de l'élément de couverture (18) de taille égale à la largeur de la face avant de la poubelle (8) et protégée par des bandes en caoutchouc (10) pour préserver l'hygiène.
2. Poubelle selon la revendication 1, **caractérisée en**

ce que la charnière (16) du couvercle (12) est à une hauteur non inférieure au rebord supérieur de l'ouverture verticale de chargement (6) pour assurer la vidage de la poubelle et pour éviter la stagnation des ordures.

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3. Kit d'assemblage pour poubelles (8) pour la collecte mécanisée d'ordures, comportant un élément de couverture (18) de forme prismatique et un couvercle incliné (12) équipé d'une poignée (14) d'un côté, le couvercle (12) étant articulé (16) sur la face supérieure de l'élément de couverture (18) pour s'ouvrir par gravité lors du retournement de la poubelle (8), **caractérisé en ce que** ledit élément de couverture (18) présente une ouverture verticale de chargement (6) située du côté opposé de taille égale à la largeur de la face avant la poubelle (8) et deux parois latérales (20), dans lequel l'ouverture verticale de chargement (6) est protégée par des bandes en caoutchouc (10) pour préserver l'hygiène.

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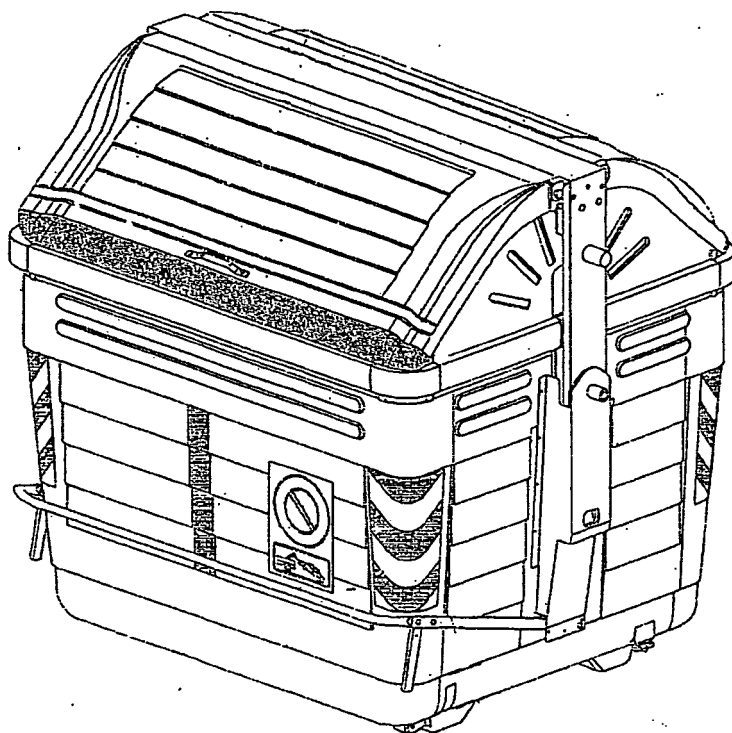


FIG. 1

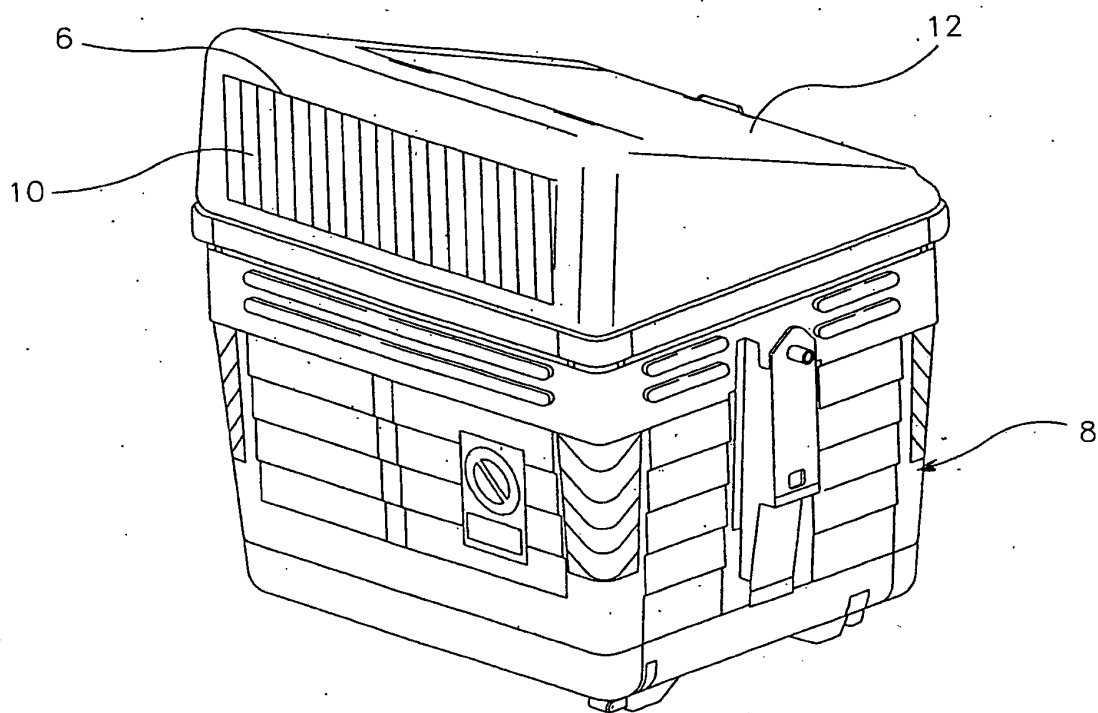


FIG. 2

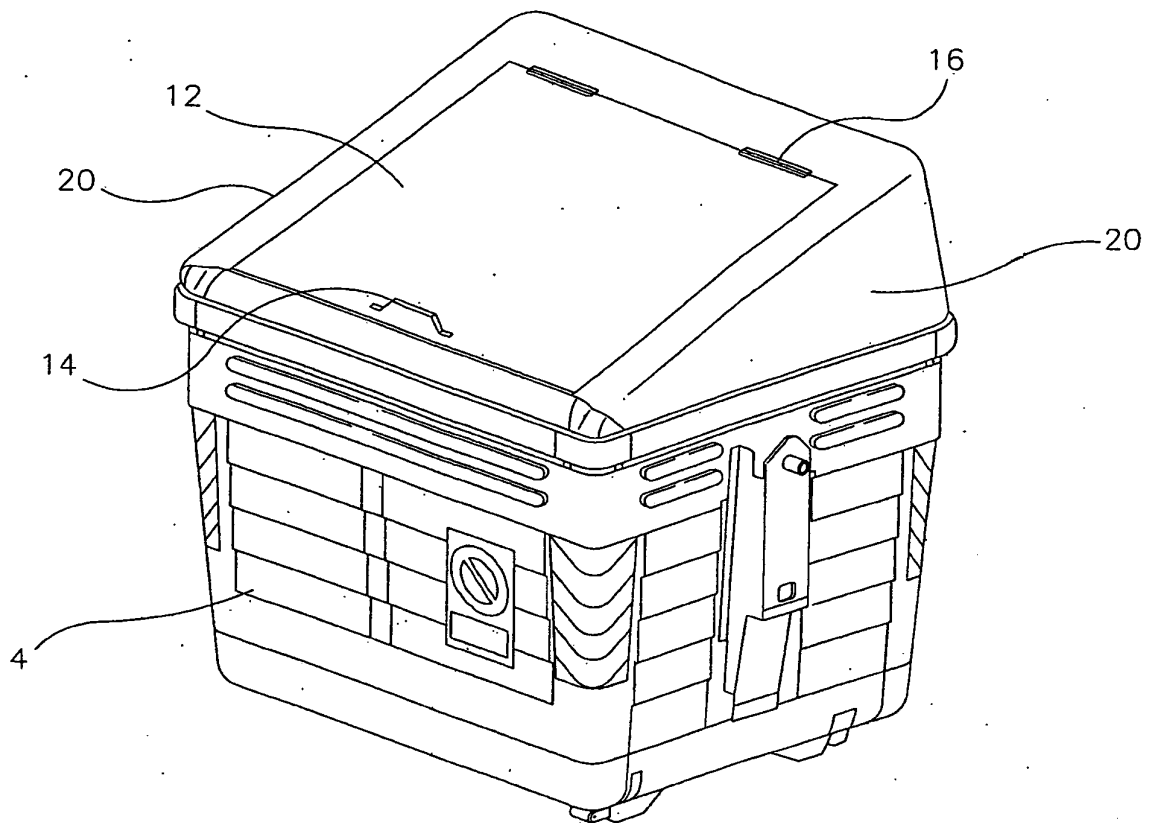


FIG. 3

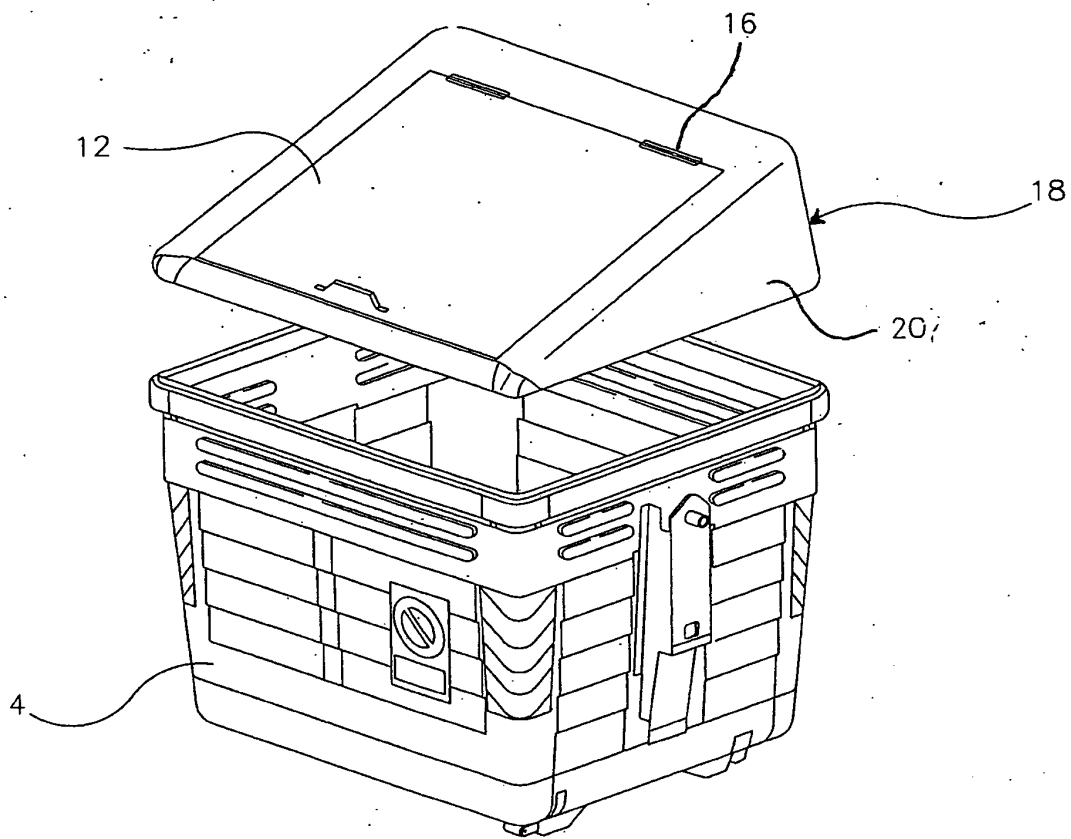


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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