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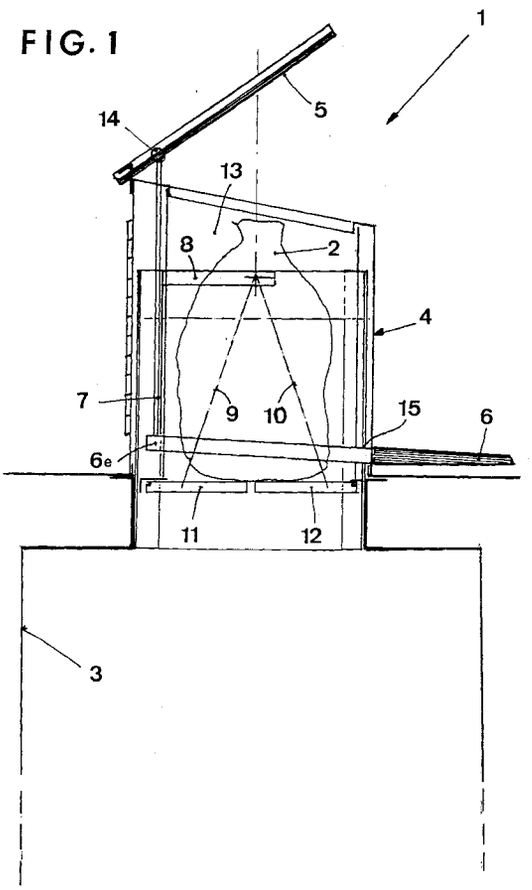
(54) Inlet mouth for depositing refuse inside a collection unit

(57) An inlet mouth (1) is described for depositing solid refuse (2) inside the container (3) of a unit designed for the collection of rubbish, comprising a casing (4) of quadrilateral section which defines a compartment (13) that is closed at the top by a pivoting lid (5) and opens at the bottom into the said container (3), the inlet mouth (1) being fitted on the outside with means (6, 7, 8, 9, 10) designed to be actuated manually in order to open and close the said pivoting lid (5), and having two pivoting shutters (11, 12) which are hinged on two opposite walls of the said casing (4) and are located between the said compartment (13) and the subjacent container (3), and in that these shutters (11, 12) are mechanically connected to the said pivoting lid (5) such that, when the latter is open, they are adjacent to each other and are horizontally coplanar, separating the compartment (13) off from the subjacent container (3) and, when the lid (5) is closed, they lie next to and parallel with the said two opposite walls of the said casing (4), allowing the compartment (13) to communicate with the abovementioned container (3).

FIG. 1



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Description

[0001] The present invention relates to the field concerning units designed for the collection of solid refuse and, more specifically, to that part of the unit that may be described as the inlet mouth, via which the rubbish can be deposited inside the said unit.

[0002] In the current state of the art, the inlet mouth is mounted above a container and consists of a casing of quadrilateral section onto which a pivoting lid is hinged that can be opened manually, in other words by acting manually on mechanical means that project outside the said casing.

[0003] One of the disadvantages encountered when using an inlet mouth such as the one described is that the unpleasant gases or vapours produced by the chemical breakdown or fermentation of the solid refuse in the unit can easily waft out into the surrounding atmosphere, enveloping the person depositing the rubbish.

[0004] There is also the danger that children or pets may accidentally or deliberately climb inside the refuse container, with all the unforeseeable consequences such a risk could entail.

[0005] In order to avoid all these disadvantages, the inventor of the present innovation has devised an inlet mouth which is fitted with a safety mechanism consisting of shutters which act like a second lid between the compartment defined by the casing of the said mouth and the subjacent refuse container.

[0006] These shutters are mechanically connected to the pivoting lid so that when the latter is open they are closed, and vice versa.

[0007] It is thus possible to open the lid and deposit the rubbish inside the compartment defined by the casing of the inlet mouth, placing it on the said closed shutters.
As the lid is then shut, the shutters open and the rubbish falls into the container proper.

[0008] The subject of the present invention is thus an inlet mouth as defined in the preamble of the appended Claim 1 and as characterized by the characterizing part of the said claim.

[0009] A more detailed description will now be given of an embodiment, which is neither restrictive nor limiting, of an inlet mouth according to the invention; this description will also refer to the appended drawings in which:

- Figure 1 shows a cross-section of the said embodiment of an inlet mouth according to the invention, with the lid open and the said shutters closed, ready to receive a sack of rubbish;

- Figure 2 shows the cross-section of the inlet mouth of Figure 1 once the lid has been closed and the shutters have consequently opened, dropping the sack into the subjacent container.

[0010] Looking at Figure 1, it may be seen that an inlet mouth 1 according to the present invention consists of a casing 4 of quadrilateral section which defines a compartment 13 that is closed at the top by a pivoting lid 5 hinged to a wall of the said casing 4, and at the bottom by two adjacent coplanar horizontal shutters 11, 12, also hinged on two opposite walls of the said casing 4.

[0011] In the position shown in Figure 1, these shutters 11, 12 separate the compartment 13 of the casing 4 off from a subjacent refuse collection unit 3, allowing someone to deposit one or more sacks of solid refuse 2 onto them once the lid is open, as shown in the figure.

[0012] Two levers 6 (only one is visible in the figure), which in the embodiment concerned are housed within a rectangular footboard, project out of the front of the casing 4, through a slit 15 formed in the latter.

[0013] These levers 6, which are connected together to form one element by the said footboard, pass approximately horizontally through the said compartment 13 and are hinged on the lower edge of the abovementioned slit 15 so that they can rotate when they are pushed down into the position shown in Figure 1.

[0014] The end 6e of each lever 6 is hinged onto a strut 7 which is vertically mounted close to one of the side walls of the compartment 13, the free end of this strut being in contact with the inside surface of the said lid 5 so that, when the said levers 6 are pushed down, the said struts 7 slide vertically upwards (along suitable tracks which are not shown), thereby lifting the said lid 5.

[0015] Attached or welded at a given height along each strut 7 is a horizontal rod-like member 8 on which the ends of two rods 9, 10 are hinged at the same point, the other ends of these rods being hinged to the said shutters 11, 12.

[0016] As the said rod-like members 8 are pulled upwards by the struts 7 as the latter open the pivoting lid 5, the said rods 9, 10 lift the shutters 11, 12 bringing them into the horizontal position already described and illustrated in Figure 1.

[0017] When the said levers 6 are released, however, (see Figure 2), the weight of the lid 5 acts on the struts 7 which, via the mechanism already described, in turn push the two shutters 11, 12 into a vertical position parallel to the walls of the casing 4 on which they are hinged. (The weight of the rubbish sacks 2, when these are present, also helps to push the shutters down).

[0018] A passage thus opens up which allows the compartment 13 to communicate with the subjacent container 3 and the rubbish sacks 2 fall under the effect of gravity into the latter, as indicated by the arrow A.

[0019] The inlet mouth 1 therefore returns to the position in which the pivoting lid 5 is closed and the shutters 11, 12 are open, as shown in Figure 2.

[0020] In order to reduce the friction between the ends of the struts 7 and the lid 5 as the latter is lifted, the inventors have envisaged inserting between these elements rotatable members such as roller-bearings or rollers made of antifriction material and mounting them on

the said ends of the struts 7.

[0021] A person skilled in the art could make numerous modifications to an inlet mouth 1 according to the invention, producing various embodiments which would still fall within the scope of protection offered by the present application as long as they could be derived from the teachings contained in the appended Claim 1.

Claims

1. Inlet mouth (1) for depositing solid refuse (2) inside the container (3) of a unit designed for the collection of rubbish, comprising a casing (4) of quadrilateral section which defines a compartment (13) that is closed at the top by a pivoting lid (5) and opens at the bottom into the said container (3), the inlet mouth (1) being fitted on the outside with means (6, 7, 8, 9, 10) designed to be actuated manually in order to open and close the said pivoting lid (5), characterized in that it has two pivoting shutters (11, 12) which are hinged on two opposite walls of the said casing (4) and are located between the said compartment (13) and the subjacent container (3), and in that these shutters (11, 12) are mechanically connected to the said pivoting lid (5) such that, when the latter is open, they are adjacent to each other and are horizontally coplanar, separating the compartment (13) off from the subjacent container (3) and, when the lid (5) is closed, they lie next to and parallel with the said two opposite walls of the said casing (4), allowing the compartment (13) to communicate with the abovementioned container (3).

2. Inlet mouth (1) according to Claim 1, in which one or more approximately horizontal levers (6) project out of the front of the said casing (4), through a slit (15) formed in the latter, and are hinged on the lower edge of the slit so that they can rotate, their ends (6e) inside the casing (4) each being hinged on a vertical lateral strut (7), the top ends of these struts being in contact with the inside surface of the said pivoting lid (5) and carrying a horizontal rod-like member (8) on which the ends of two rods (9, 10) are hinged at the same point, the other ends of these rods being hinged to the said shutters (11, 12).

3. Inlet mouth according to Claim 2, in which the said vertical struts (7) are two in number and are positioned against the two opposite side walls of the said casing (4).

4. Inlet mouth according to one of Claims 2 or 3, in which the said vertical strut or struts (7) each carry a rotatable member in order to reduce friction, this member being mounted on that end of the strut which is in contact with the inside surface of the pivoting lid (5).

5. Inlet mouth according to one of the previous claims, in which the said levers (6) are two in number and are housed within a footboard.

FIG. 1

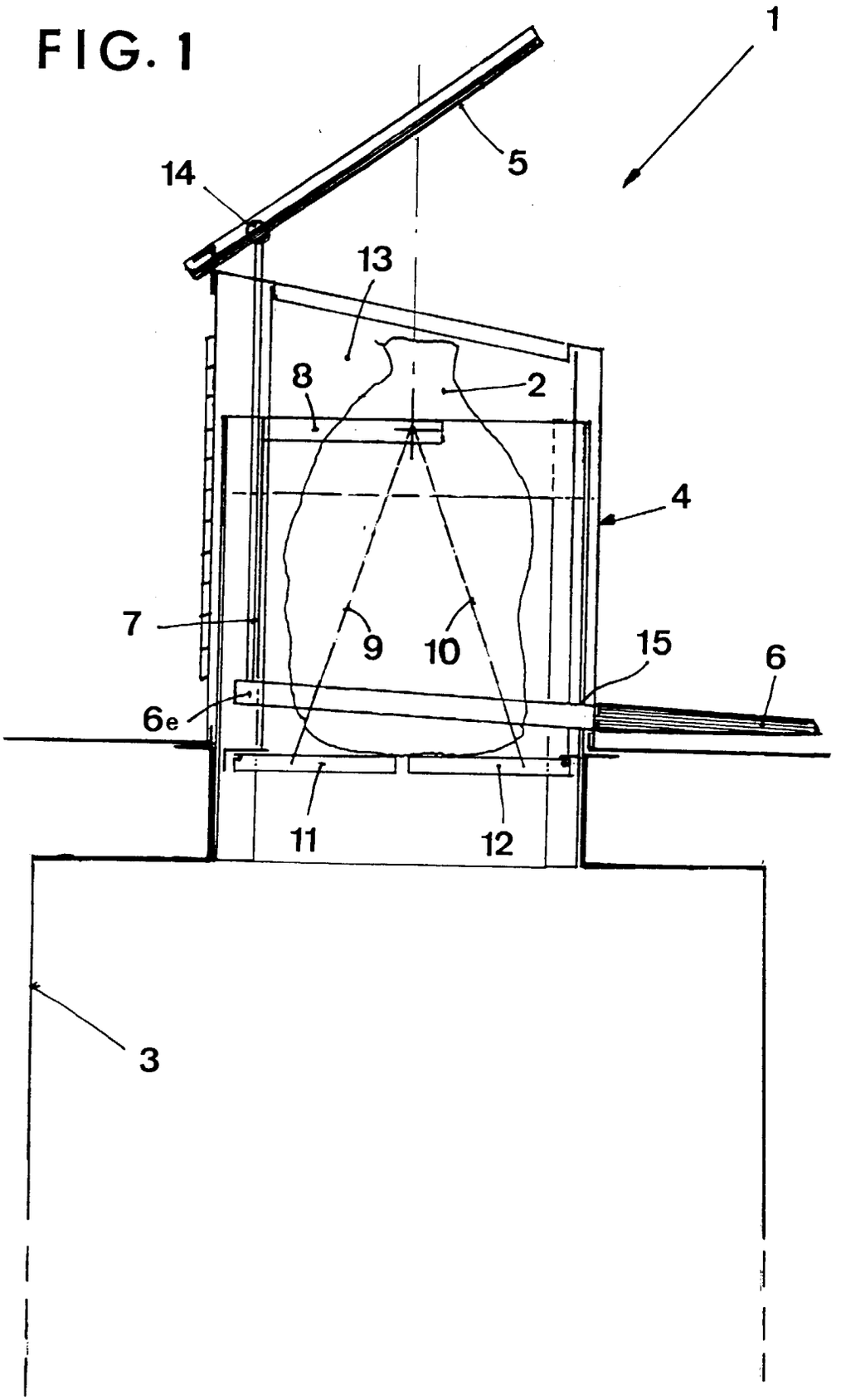
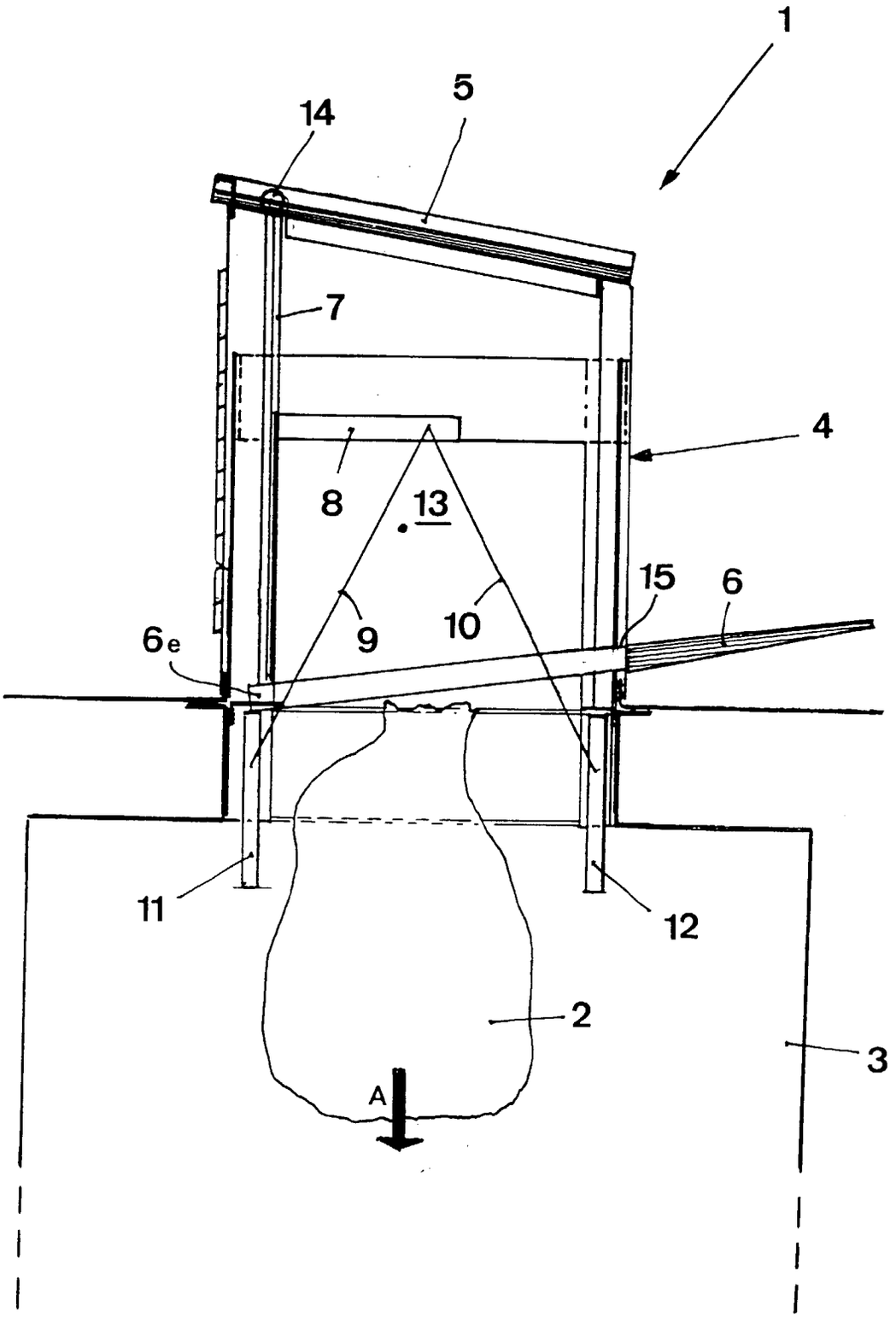


FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 98 81 0908

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	21 January 1999	Smolders, R

CATEGORY OF CITED DOCUMENTS

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21-01-1999

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