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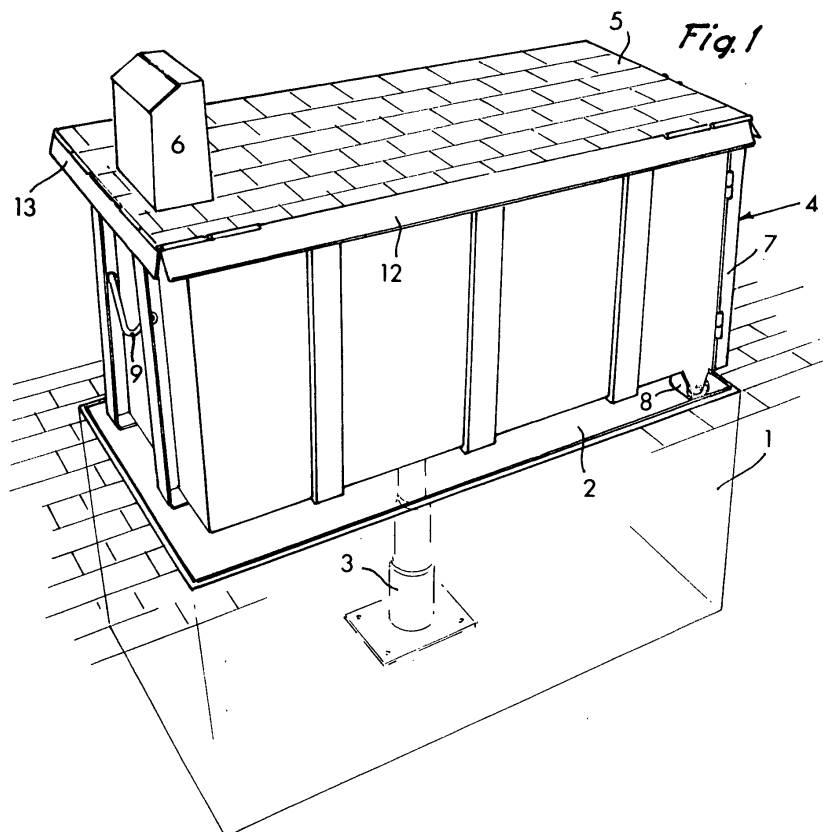
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(54) **Waste collection device**

(57) A waste collection device comprising, inside a pit (1), a base (2) suitable for supporting a truck-loadable container (4) that is provided with a walkable cover (5) that comprises at least one pillar (6) for waste insertion,

the base (2) being provided with means for moving between a lower stroke limit position, in which the cover (5) of the container (4) is at the level of the paving that surrounds the pit (1), and an upper stroke limit position, in which the base is at that level.



Description

[0001] The present invention relates to a waste collection device.

[0002] It is known that one of the systems currently used to collect waste, particularly municipal waste, provides for the presence of containers inserted in pits formed in the street paving and provided with means for moving from a position in which they are retracted inside the pit to a position in which they protrude from said pit.

[0003] In the known art, the containers are inserted in a structure that comprises a supporting base for the containers and an overlying cover provided with at least one pillar for waste insertion.

[0004] When the structure is at the lower stroke limit, its cover is arranged at the level of the paving that surrounds the pit: this is the normal operating condition, in which the users introduce the bags of waste in the pillar in order to make them fall into the underlying container.

[0005] The containers have to be emptied periodically, and in this case the structure is moved to the upper stroke limit position, with the container supporting base at the level of the paving that surrounds the pit, thus allowing their easy removal.

[0006] The aim of the present invention is to provide a waste collection device that has improved characteristics with respect to the known art.

[0007] This aim is achieved by a waste collection device according to the invention, characterized in that it comprises, inside a pit, a base suitable for supporting a truck-loadable container that is provided with a walkable cover that comprises at least one pillar for waste insertion, said base being provided with means for moving between a lower stroke limit position, in which the cover of the truck-loadable container is at the level of the paving that surrounds the pit, and an upper stroke limit position, in which said base is at said level.

[0008] Further characteristics and advantages will become better apparent from the description of preferred but not exclusive embodiments of the invention, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

Figure 1 is a perspective view of the device according to the invention in the upper stroke limit position; Figures 2 to 5 are views of successive steps of operation; Figures 6 and 7 are views of further embodiments of the invention.

[0009] With reference to Figures 1 to 5, the reference numeral 1 designates a pit formed within the street paving, which comprises a base 2 provided with means, such as a hydraulic cylinder 3, for movement in manners described hereinafter during description of operation.

[0010] The base is designed to support a truck-loadable container 4, which is provided with a walkable cover 5 that comprises a pillar 6 for waste insertion; the con-

tainer 4 comprises, in a known manner, a door 7 and a supporting roller 8, which is suitable to facilitate translational motion when the container is drawn while it is engaged at a coupling 9 by suitable means 10, located on board a truck 11 that is designed to carry the container.

[0011] The reference numerals 12 and 13 further designate two of the four wings that are pivoted to the sides of the cover 5 of the container and are suitable to rest on the paving that surrounds the pit in the lower stroke limit position of the base 2, in order to be arranged substantially aligned with the walls of the container 4 when said container protrudes from the pit.

[0012] The description of operation begins from the situation of Figure 2, in which the base 2 is at the lower stroke limit, with the walkable cover 5 of the truck-loadable container 4 at the level of the paving that surrounds the pit: this is the situation for normal use, in which users throw the waste bags into the container by means of the pillar 6.

[0013] When it is necessary to empty the container, the base 2 is moved to the level of the paving that surrounds the pit, as shown in Figure 3, and in this manner the container 4 is made available to the traction applied by the means 10, which by passing through steps such as the one shown in Figure 4 move said container onto the truck 11, which carries the container to a landfill, as shown in Figure 5.

[0014] In the described embodiment, the pillar 6 is associated with the cover 5 monolithically; the embodiments of Figures 6 and 7 illustrate pillars 14 and 15 that are pivoted to the cover of the container at 14a, 15a, so as to allow reductions in space occupation by resting the pillar on the cover or, respectively, by inserting the pillar in the container, as is easily possible if the container is provided in the form of a compactor.

[0015] The described invention is susceptible of numerous other modifications and variations, all of which are within the scope of the inventive concept; all the details may furthermore be replaced with other technically equivalent elements.

[0016] The disclosures in Italian Patent Application No. MN2001A000043, from which this application claims priority, are incorporated herein by reference.

[0017] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the scope of each element identified by way of example by such reference signs.

Claims

1. A waste collection device, **characterized in that** it comprises, inside a pit, a base suitable for supporting a truck-loadable container that is provided with

a walkable cover that comprises at least one pillar for waste insertion, said base being provided with means for moving between a lower stroke limit position, in which the cover of the truck-loadable container is at the level of the paving that surrounds the pit, and an upper stroke limit position, in which said base is at said level. 5

2. The device according to claim 1, **characterized in that** the waste insertion pillar is associated monolithically with the cover of the truck-loadable container. 10
3. The device according to claim 1, **characterized in that** the waste insertion pillar is associated with the cover of the truck-loadable container by being hinged so that it can rest on said cover. 15
4. The device according to claim 1, **characterized in that** the waste insertion pillar is associated with the cover of the truck-loadable container by being hinged so that it can enter said container. 20
5. The device according to one or more of the preceding claims, **characterized in that** the cover of the truck-loadable container is provided, at its perimeter, with hinged wings that are suitable for resting on the paving that surrounds the pit in the position in which the supporting base of said container is at the lower stroke limit, in order to be arranged substantially aligned with the walls of the container when said container protrudes from the pit. 25 30

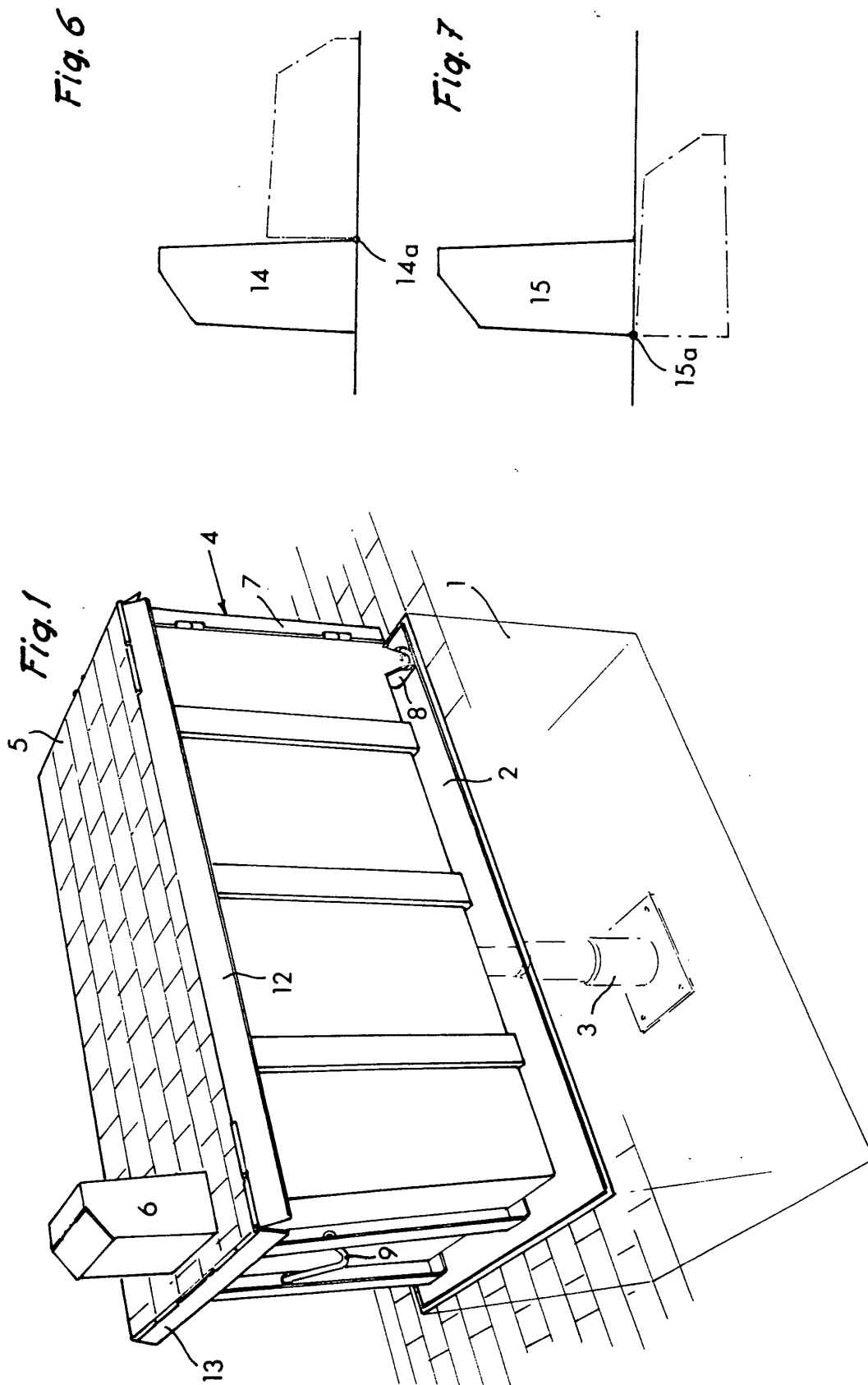
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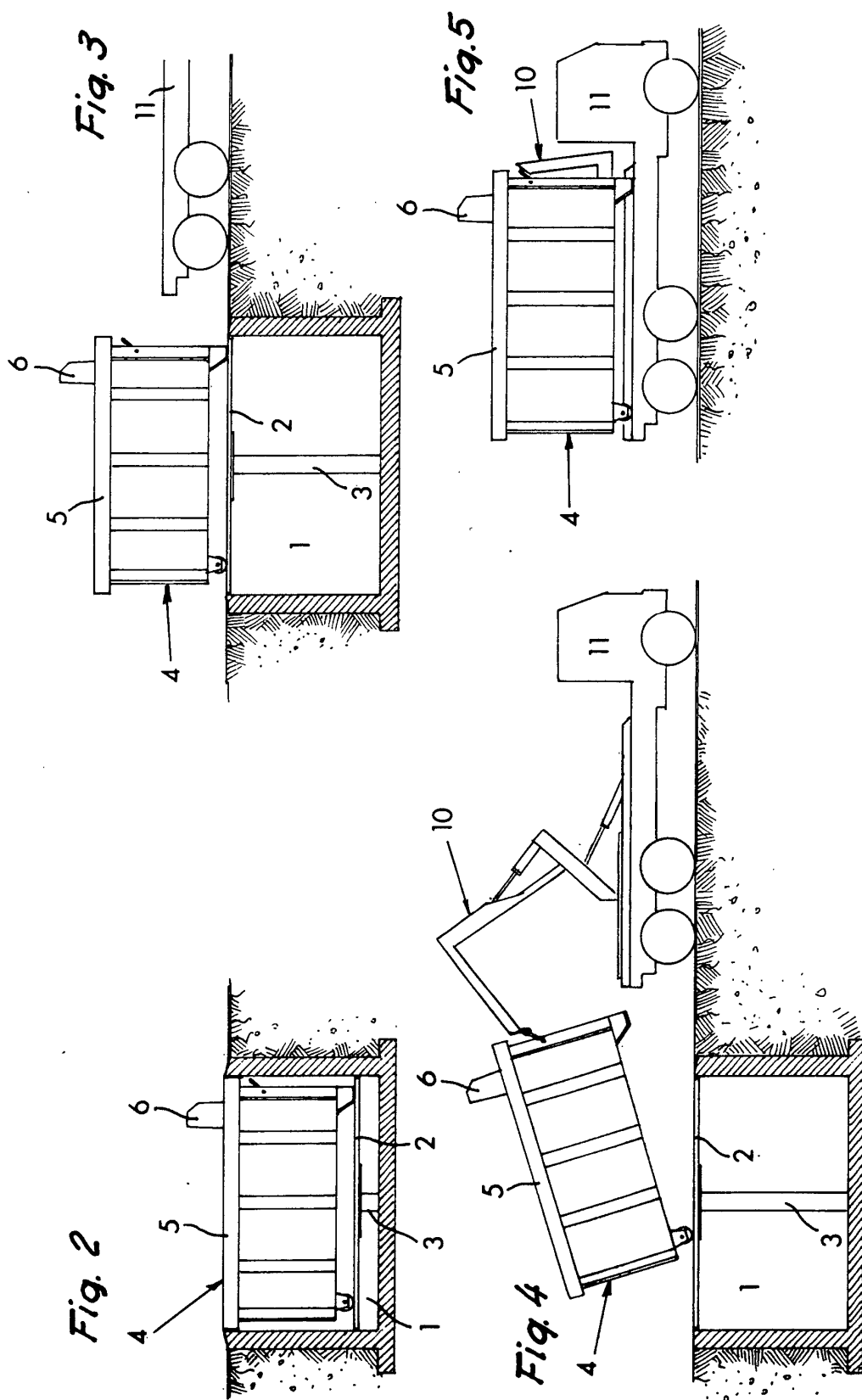
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EUROPEAN SEARCH REPORT

Application Number
EP 02 02 3712

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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11 March 2003	Examiner Smolders, R
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		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 02 02 3712

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