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(54) Container, particularly refuse container, provided with compacting means

(57) A refuse container (3) is provided with compacting means (27) to compact refuse. The container has a funnel (17) being present below the entry (11) and debouch into the press room. The compacting means comprise a movable ram (31) which compacts the refuse below the funnel. The funnel is partly formed by a partition (21) which acts as a breaking beam and is

present between the entry and the storage room. The partition is hinged (23) with its upper side to the housing (9) of the container. The compacting plate (37) of the ram is hinged (39) with its upper side to the frame of the ram.

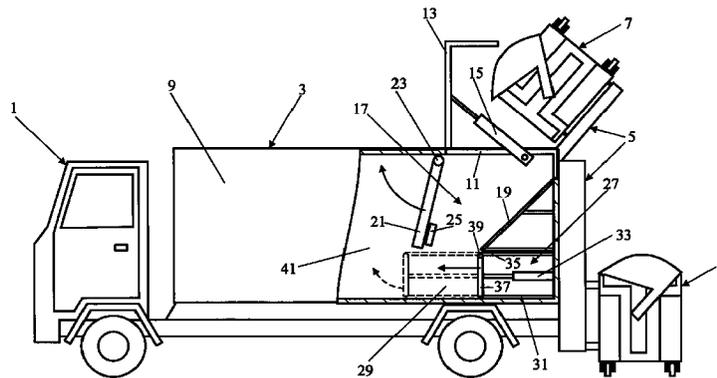


FIG. 1

## Description

[0001] The invention concerns a container, particularly refuse container, provided with compacting means to compact material, particularly refuse, said container comprises a storage room, a press room and an entry and comprising a housing and also a funnel being present below the entry and debouch into the press room, said funnel comprises a partition which is present between the entry and the storage room.

[0002] Such a container is generally known and is often used by refuse lorries to collect household refuse and other refuse. The refuse will be put into the container via the entry and will fall through the funnel before a ram which presses the refuse into the storage room. The ram moves close under the funnel whereby the lower side of said partition of the funnel acts as a breaking beam. In case material with a relatively high density, like paper, is part of the refuse it often happens that this material sticks between the upper side of the ram and the lower side of the partition of the funnel, and the ram jams between the guide, in which the ram moves, and the partition of the funnel. This obliges an early emptying and cleaning of the container.

[0003] The emptying takes place by turning the container back to front about a vertical axle and then tipping the container while opening the back wall of the container. It has been appeared that after emptying some refuse remains in the funnel and thus the container is not complete emptied and can pick up less refuse the next time. Moreover it has appeared that the filling of the storage room is not optimum during collecting and compacting of refuse.

[0004] An objective of the invention is the provision of a container as described at the beginning, whereby the problem of sticking of the compacting means is solved and the emptying and cleaning of the container will be better and easier and whereby the a better filling can be obtained than by the known containers. To this end the container according to the invention is characterised in that the partition is hinged with its upper side to the housing of the container. Preferably, the partition is freely rotatable about a hinge axle. Because the partition is freely rotatable, refuse can not stick between the lower side of the partition and the upper side of the ram during the compacting movement. During the emptying of the container, the partition turns under the action of its own weight and releases the room inside the funnel so that no refuse can remain in the funnel. Beside this it has been appeared that by being rotatable of the partition a better filling of the storage room will be obtained because the refuse can get easier in the part of the storage room behind the partition.

[0005] An embodiment of the container according to the invention is characterised in that the container comprises at least one stop, the partition being present against this stop when the container is in its horizontal position.

[0006] A further embodiment of the container is characterised in that the partition is heavy constructed and acts as a breaking beam to break the stucked material from each other.

5 [0007] Still a further embodiment of the container according to the invention is characterised in that the compacting means comprise a movable ram, which comprises a compacting plate at its front end hinged at the remaining part of the ram. It has been appeared, 10 namely, that behind the compacting plate of the ram refuse accumulates which gets under and along the compacting plate during compacting. In case there is too much refuse behind the compacting plate of the ram, the ram can not be pulled back enough and the funnel will be partly closed which obliges a premature emptying and cleaning of the container. By hinging the compacting plate to the ram, the compacting plate turns to the open position during tipping of the container when emptying the container, so that the refuse accumulated behind the compacting plate will fall out of the room behind the compacting plate and it is prevented that too much refuse will accumulate behind the compacting plate. Preferably, the compacting plate is freely rotatable about a hinge axle.

15 [0008] The invention will be further explained below with the aid of drawings showing a construction example of the container according to the invention. These indicate:

20 Figure 1 is a partly exploded side view of a refuse lorry with an embodiment of the container according to the invention; and  
Figure 2 is the refuse lorry during emptying of the container.

25 [0009] Figure 1 shows a refuse lorry 1 with a container 3 of the invention. The refuse lorry 1 has an apparatus 5 (shown schematically) for lifting and emptying of refuse boxes 7 into the container 3. The container 3 has a housing 9 comprising an entry 11 which can be closed by a ramp 13. The ramp 13 can be opened and closed by means of a cylinder 15 which is hinged to the ramp 13 and the housing 9. A funnel 17 is present below the entry 11. The funnel 17 has a fixed wall 19, which is fixed to the housing 9 of the container, and a partition 21 which also acts as a breaking beam to break the refuse during compacting. The partition 21 is hinged at the housing 9 and is freely rotatable about a hinge axle 23. The partition 21 rests with both sides against stops 25 which are present at the inner sides of the side walls of the housing 9. Below the funnel 17 there are compacting means 27 to compact the refuse. The refuse falls via the funnel into a press room 29. The compacting means 27 comprise a ram 31 which can be pushed by a cylinder 33. The cylinder 33 is hinged at the housing 9 and at a frame of the ram 31. The ram 31 has a closing plate 35 at the upper side and a compacting plate 37 at the front side. The compacting plate 37 is hinged at the

remaining part of the ram and can rotate freely about a hinge axle 39. The compacting plate 37 can only rotate in the direction of the arrow indicated with a dotted line. In the opposite direction the compacting plate is retained by a stop on the ram. The ram 31 presses the refuse into a storage room 41, present in the container, and slips via a guide (not shown) under the funnel to the position indicated with dotted lines. During this movement the ram 31 moves close under the partition 21, which breaks the stucked refuse by this movement. The fact that the partition 21 is hinged prevents the refuse from getting stucked between the lower side of the partition 21 and the closing plate 35 of the ram 31. With this also the refuse can get better behind the partition 21 into the storage room 41 so that a better filling of the storage room is obtained.

**[0010]** In figure 2 a refuse lorry 1 with a container 3 is shown during emptying of the container. Before tipping the container, the container 3 is turned over 180 degrees about a vertical axle in the middle of the container, so that the container 3 is placed back to front on the refuse lorry 1. After a back wall 43 of the housing 9 of the container is unlocked, the container 3 will be tipped by a hydraulic cylinder 45 present on the refuse lorry 1. During tipping the partition 21 and the compacting plate 37 swing into their open positions and the refuse can fall out of the funnel 17 and out of the room behind the compacting plate 37. In the tipped position the container 3 can be easily cleaned from the back side by a jet of water which cleans the rooms in the funnel 17 and behind the compacting plate 37.

**[0011]** Although the above describes the invention using the drawings, it should be pointed out that the invention is in no way limited to the constructional form indicated on the drawings. The invention is open to different constructional forms, within the framework of the defined conclusions, other than the forms of construction indicated on the drawings.

**[0012]** It will be also possible to place pushing means, for example a pushing spring, between the partition and the housing so that the partition will not be rotatable freely but can only rotate against the pushing action of a spring. During emptying of the container it will then be possible to disconnect the pushing spring.

### Claims

1. Container, particularly refuse container, provided with compacting means to compact material, particularly refuse, said container comprises a storage room, a press room and an entry and comprising a housing and also a funnel being present below the entry and debouch into the press room, said funnel comprises a partition which is present between the entry and the storage room, characterised in that the partition is hinged with its upper side to the housing of the container.

2. Container as claimed in claim 1, characterised in that the partition is freely rotatable about a hinge axle.
- 5 3. Container as claimed in claim 1 or 2, characterised in that the container comprises at least one stop, the partition being present against this stop when the container is in its horizontal position.
- 10 4. Container as claimed in claim 1,2 or 3, characterised in that the partition is heavy constructed and acts as a breaking beam to break the stucked material from each other.
- 15 5. Container volgens conclusie 1,2,3 or 4, characterised in that the compacting means comprise a movable ram, which comprises a compacting plate at its front end hinged at the remaining part of the ram.
- 20 6. Container volgens conclusie 5, characterised in that the compacting plate is freely rotatable about a hinge axle.



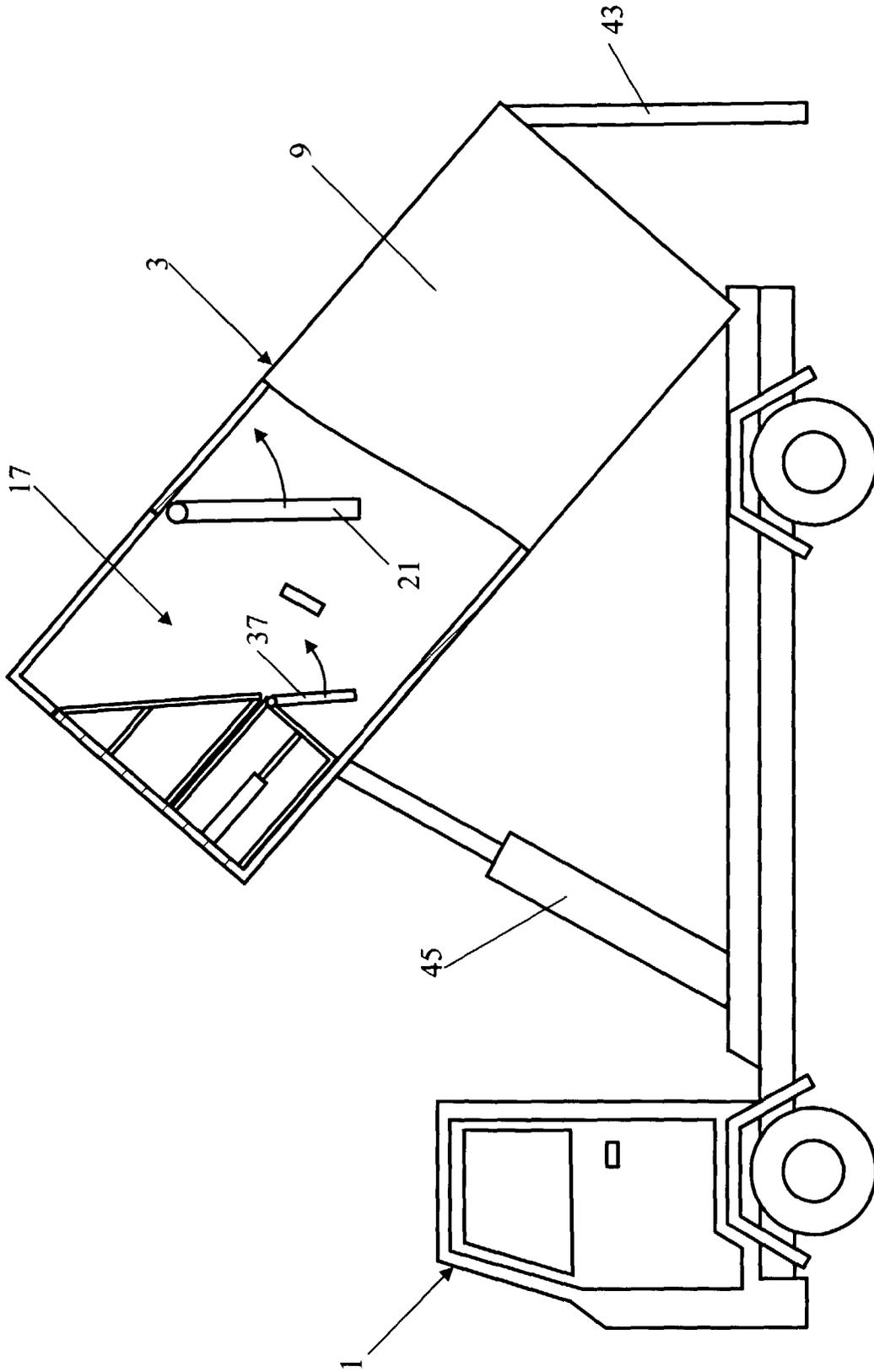


FIG. 2



European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 98 20 3181

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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65F B30B
Place of search	Date of completion of the search	Examiner	
THE HAGUE	2 December 1998	Smolders, R	
CATEGORY OF CITED DOCUMENTS		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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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 98 20 3181

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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