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Remarks:
Claims 16-21 are deemed to be abandoned due to non-payment of the claims fees (Rule 45(3) EPC).

(54) **Device for collecting waste and assembly of such a device and a tool**

(57) The invention provides a device for collecting waste, comprising an outer container and an inner container to be placed in said outer container, a first wall facing a first side of which inner container is provided with several first openings having a diameter of 0.8 - 5 cm, preferably 2.5 - 3.5 cm. Furthermore the device concerns an assembly of a device described above, which device has obstruction means comprising at least one obstruction element, preferably two, which is movable relative to the inner container, which obstruction element, in a first position thereof, makes it difficult to remove the inner container from the outer container and which, in a second position thereof, makes it possible to remove the inner container from the outer container, and has a tool for moving the obstruction element to the second position.

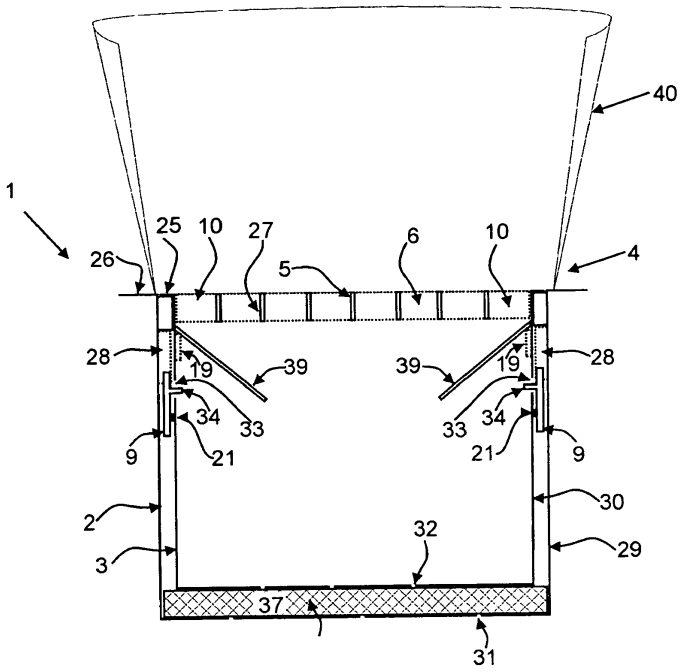

Fig. 1

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Description

Field of the invention

[0001] The present invention relates to a device for collecting waste and to an assembly of such a device and a tool.

Background of the invention

[0002] Because nowadays smoking is generally no longer permitted indoors, this activity increasingly shifts to outdoor locations. It is a known fact that people who smoke cigarettes throw the remaining butts three times more often on the ground than in an ashtray, even if such an ashtray is within easy reach. Consequently, waste accumulates on the ground, especially in the form of cigarette butts, at locations where people go to smoke. Cigarette butts contain harmful substances, for example nicotine. They must be prevented from ending up in the environment, for example in the sewer system via a storm drain grating. In shopping streets, for example, cigarette butts are often swept into a gutter that connects to the sewer system.

[0003] A known solution to the problem of collecting waste, in particular cigarette butts which are thrown on the ground, is a container comprising a loose grating on one side, which container can be placed in the ground in such a manner that the upper surface of the grating is flush with the ground surface. Such containers are fixed in place and their contents must be removed therefrom by suction. In many cases the grating, which is often rather heavy, must to that end be manually lifted. The suction devices that are used frequently comprise a bag which allows a large part of the fine dust being sucked up to pass therethrough and spread at the location where the container is installed. The ash, which contains harmful substances, thus remains behind at the smoking location and is moreover inhaled by the operator of the suction device as well as by other persons. Furthermore, such a solution is costly because of the expensive suction device that is needed. A suction device which keeps the fine dust inside is even more expensive. Another drawback of sucking out the waste is that a location must be reserved for storing such a voluminous suction device. For an entrepreneur, for example a shopkeeper, who feels responsible for the waste, such a suction device is a costly solution. Another drawback is that in such a container a burning cigarette or cigarette butt will not go out and will continue to burn for a long time. In the most negative case, the other materials in the container will even burn as well.

[0004] Accordingly it is an object of the invention to offer a solution to the above problems and to provide a device for collecting waste, in particular cigarette butts, which can be installed in the ground in such a manner that its upper side forms part of the ground surface, and which is easy to empty. Preferably, an independent user can put the device into use without a great deal of additional cost.

Summary of the invention

[0005] The invention provides a device for collecting waste, comprising an outer container and an inner container to be placed in said outer container, a first wall facing a first side of which inner container is provided with several first openings having a diameter of 0.8 - 5 cm, preferably 2.5 - 3.5 cm.

[0006] The openings are large enough for cigarette butts to pass therethrough, but also small enough for people to walk thereon without any discomfort. If the device is buried in the ground, cigarette butts lying beside the device can be swept into the inner container. The term "collecting" is thus understood to mean that waste is either directly collected in or swept into the inner container.

[0007] The first wall is preferably a metal grating. Said grating may be a separate part, which can be detached from the other part of the inner container, or form an integral part of the inner container. As will become clear hereinafter, the latter two options are preferred.

[0008] The device is preferably so sturdy that, buried in the ground, it is capable of carrying the weight of people and preferably also of vehicles. In view of the required sturdiness, the device is preferably made of a metal.

[0009] The device is preferably dimensioned so that it is suitable for being buried in the ground. The outer circumference of the side of the outer container that faces upward in the functional position thereof is preferably such that it can be installed in the place of a standard paving slab, with its upper side flush with the paving. The first wall may have an outer circumference of 29.5 x 29.5 cm, for example. The outer circumference of the outer container may in that case be 30.0 x 30.0 cm, for example, the same dimension as a standard paving slab. Preferably, the outer container comprises an outwardly flanged edge, for example having a width of 2 cm, which flanged edge can be supported on the adjacent paving. The inner container preferably comprises an outwardly flanged edge for being supported on the outer container. Preferably, carrying and/or installing a device according to the invention is so easy that it can be done by a person who has no experience in this regard. The outer container is preferably closed such that no earth or sand can find its way into said container from outside. The inner container is preferably closed such that waste cannot find its way into the outer container from the inner container. On the other hand, both the outer container and the inner container are preferably provided with openings which are so small that water can drain into the ground and will not remain in the outer container or the inner container.

[0010] The outer container is preferably entirely open on one side for receiving the inner container. An outer container is preferably so dimensioned that an inner container fits therein. According to another possibility, a

number of inner containers can be placed in an outer container, for example beside each other. The space between the inner container and the outer container is preferably as small as possible. When the inner container is positioned in the outer container, the outer circumference of the inner container preferably closely abuts the inner circumference of the outer container.

[0011] An inner container offers more possibilities for discharging the waste collected therein. The inner container can be removed from the outer container, preferably with the aid of only one tool, or more tools, and be emptied by moving it to a waste collecting point, for example a larger waste container. The inner container can for example be emptied by positioning it so that the waste falls from the openings. The device must to that end turned through 180 degrees. Because the inner container is relatively heavy on account of the required solidity thereof, turning it upside down will be a difficult job. Below are a few embodiments will be discussed in which the inner container only needs to be tilted, preferably using the tool, instead of being turned completely upside-down.

[0012] A preferred embodiment of the device according to the invention comprises obstruction means which function to make it difficult to remove the inner container from the outer container without making use of a tool. If it would be easy to remove the inner container from the outer container, the inner container might constitute a danger if it should fall into the wrong hands. Vandals might use the inner container for committing acts of vandalism. Furthermore, the inner container might be stolen. The advantage of the obstruction means is therefore that they prevent abuse or theft of the inner container.

[0013] The obstruction means preferably comprise at least one obstruction element, preferably two, which is movable relative to the inner container, which obstruction element, in a first position thereof, makes it difficult to remove the inner container from the outer container and which, in a second position thereof, makes it possible to remove the inner container from the outer container. The obstruction element may comprise a movable or a compressible part, for example.

[0014] Preferably, however, the obstruction element is rotatable. It is preferably elongate in shape, having a length greater than and a width smaller than that of a passage and rotatable such that its axis of rotation does not coincide with the longitudinal axis of the obstruction element. The passage may be formed by structures present on the inside of the outer container, for example in the form of a slot or a space between two straight parts mounted on the outer container. Because of the position of the axis of rotation, the obstruction element comes to take up an inclined position in a functioning position of the inner container, i.e. with the first wall facing upward, such that the obstruction element will no longer fit through the passage. If, on the other hand, the obstruction element is rotated under the influence of an external force, preferably exerted by a suitable tool, such that it takes up an upright position, the obstruction element can be passed through the passage. The obstruction elements are preferably only accessible to a suitable tool and not to unauthorized persons.

[0015] The device preferably comprises at least one second opening on the first side, preferably in the first wall, for passing a tool therethrough for the purpose of moving the obstruction element to the second position. As a result, the inner container can only be removed from the outer container by means of a suitable tool.

[0016] In another preferred embodiment of the device according to the invention, part of the inner container is made up of a flap member, which flap member allows the waste to pass therethrough in an open position thereof. The advantage of such a flap member is that the inner container no longer needs to be turned completely upside-down but at the very most needs to be tilted. The flap member may form part of the side opposite the first wall, but preferably it forms at least part of a second side that extends transversely to the first side. In other words, the flap member may form part of the bottom in a functional position, but it may also form part of a side wall. If the flap member forms part of a side wall, the inner container must be tilted in order to discharge the waste that has collected therein. In said latter preferred embodiment, the first wall is preferably detachably connected to the other part of the inner container or forms an integral part of the inner container. The fact is that the first wall, for example a grating, must be prevented from becoming detached from the inner container and falling on the ground upon tilting thereof.

[0017] The flap member is preferably hinged to the other part of the inner container.

[0018] The flap member preferably forms at least the larger part of a second wall transversely to the first wall of the inner container. As a result of the tilting of the inner container and the putting of the flap member in the open position, the waste that has collected in the inner container can be discharged in one go whilst the amount of waste that remains behind in corners of the inner container is minimised.

[0019] The wall of which the flap member forms part, or which is at least for the larger part made up of the flap member, is preferably substantially flat, and preferably it makes an acute angle with the first wall, whilst the hinge axis is preferably located near the end of the flap member remote from the first wall. After the flap member has been put in the open position and the waste has been discharged, the inner container must be placed back in the outer container. To that end the flap member must return to its closed position. As a result of the acute angle described above, the opening of the outer container is larger than the cross-section of the bottom side of the inner container, so that the flap member will be able to move towards its closed position when the inner container is being lowered into the outer container. The outer container preferably abuts the inner container so closely that the flap member will close of its own accord when the inner container is at least for the larger part positioned

within the outer container.

[0020] Preferably the flap member is linked through one or more hinges to the remaining part of the inner container in such a way that one plate of the hinge is connected to the lower side of the inner container, in order not to form an obstruction during the drainage of waste, and that the other plate of the hinge is connected to the side of the flap member which in closed position faces the inner side of the inner container, in order not to form an obstacle when placing it back in the inner container.

[0021] In a specific preferred embodiment of the device according to the invention, the flap member deflects along an imaginary line which extends substantially parallel to the hinge axis, such that in the closed position at least part of the flap member extends in the direction of a wall opposite the flap member. The advantage of such a deflection is that the flap member will move to the closed position more easily when the inner container is being placed into the outer container.

[0022] Yet another preferred embodiment of the device according to the invention comprises positioning means for positioning the flap member.

[0023] Preferably, the positioning means comprise magnet means, which magnet means are adjusted so that the flap member can be put in its open position with a slight thrust. The term "thrust" is understood to mean a jolting movement or an impact. The term "open position" is understood to mean a position in which the flap member no longer forms a wall of the inner container. In such an open position the flap member can fall down, for example, to make it possible to discharge the waste.

[0024] The positioning means preferably comprise spring means, which spring means are adjusted so that they keep the flap member within a range of movement from the closed position to a position in which the flat member extends substantially parallel to the first wall. Such spring means function to make it easier to return the flap member to its closed position. Preferably, this takes place in such a manner that no additional operation is required. The spring means function to prevent the flap member from hanging down when the inner container is positioned with the first wall facing upward again. The fact is that it is no longer possible in such a situation to place the inner container in the outer container. When the flap member is held in a more or less horizontal position by the spring means, the flap member will slowly be moved towards the closed position when the inner container is being lowered into the outer container.

[0025] In yet another embodiment of the device according to the invention, the hinge axis of the flap member is positioned transversely to the direction of movement of the obstruction element. This makes it possible to approach the inner container from a direction in which the obstruction element is moved forward or backward, for example rotated, preferably by means of a tool, and the inner container is lifted from the outer container. Subsequently the inner container can be tilted from the same direction, such that the flap member can allow the waste to pass in its open position. If the device is positioned above a waste collection location, such as a usual waste container, the waste can be discharged therein. In the situation in which the obstruction element is rotatable, the direction of movement will be the direction of rotation.

[0026] If the device is to be placed near a wall or a column, the outer container preferably comprises an upright, preferably diverging, collar extending from a side wall. If the outer container is buried in the ground, said collar will extend above the ground surface and, functioning as a kind of funnel, lead waste to the inner container.

[0027] Preferably, the device comprises an absorbent material for absorbing environmentally unfriendly substances. Said material is preferably provided in the form of a layer, which layer is positioned on the bottom of the outer container, between the inner container and the outer container. Said layer is preferably permeable to water, preferably, however, it will retain a small amount of water so as to keep the environment inside the inner container moist so that burning cigarettes will automatically go out.

[0028] Another aspect of the invention, which is aimed at making burning cigarettes go out more quickly, concerns a rib, preferably several ribs. Said ribs preferably extend obliquely downward from the four side walls of the inner container toward the bottom of the inner container, forming a funnel-shaped part. Said ribs function to reduce the supply of oxygen to and the discharge of smoke from a burning cigarette that may be present in the inner container.

[0029] The invention also provides an assembly of a device as describe above and a tool for moving the obstruction element to the second position.

[0030] Said tool preferably comprises a support portion for being supported on the obstruction element, such that said obstruction element will move to the second position.

[0031] In a preferred embodiment of the assembly according to the invention, the inner container comprises a projecting part, and the tool comprises an engaging part for engaging said projecting part for the purpose of lifting the inner container from the outer container. When such an assembly is used, the inner container can be removed from the outer container by means of a suitable tool and be emptied without there being a need for the inner container to be manually engaged by a person. The projecting part may be a part of the first wall but it may also be an additional part.

Brief description of the drawings

[0032] The invention will be explained in more detail hereinafter on the basis of a description of non-limitative preferred embodiments of a device and an assembly according to the invention. In the drawings:

Figure 1 is a schematic cross-sectional view of the flap member;

Figure 2 is a schematic cross-sectional view of two obstruction elements and engaging portions;
Figure 3 is a larger-scale view of an obstruction element in the first position thereof;
Figure 4 is a larger-scale view of an obstruction element and a tool in the second position of the obstruction element;
Figure 5 is a view of the assembly in which two positions of the inner container are shown; and
Figure 6 is a schematic view of the hinging movement of the flap member upon placement of the inner container into the outer container.

Description of preferred embodiments of the invention

[0033] The device (1) shown in figures 1 and 2 consists of an outer container (2) and an inner container (3), which is to be placed in said outer container (2), a first wall (5) facing a first side (4) of which inner container (3) comprises several first openings (6). As the figures show, both the inner container and the outer container have outwardly flanged edges (25 and 26, respectively) via which they can be supported on the outer container (2) and on the ground surface, respectively. In this embodiment, the first wall (5) comprises a grating (27), which grating is supported on an edge (37). The side walls (29) of the outer container (2) are closed, so that no ground material, such as earth, can enter the outer container (2) from the side. The side walls (30) of the inner container (3), to which side walls the obstruction elements (9) are connected, are closed so that no waste can enter the outer container from the inner container. On the other hand, both the outer container and the inner container comprise small openings (31 and 32, respectively), so that water can drain into the ground rather than remain in the outer container or the inner container. As the figures show, a layer consisting of an absorbent material (37) is present on the bottom of the outer container, between the inner container and the outer container. As the figures further show, the inner container (3) comprises four ribs (39) that slope downward from the four side walls (30, 38) of the inner container (3) to the bottom of the inner container. Said ribs (39) jointly form a funnel-shaped part (not shown). In figure 1 (elevation view, illustrated in thin lines) and in figure 2 a diverging collar (40) extending upward from a side wall is shown. Said collar extends from a wall of the outer container (3) opposite the flap member, so that the tool (not shown) can easily move the obstruction elements (9).

[0034] The cross-sectional view of figure 1 shows two obstruction elements (9). The obstruction element (9) is rectangular in shape (see figure 3). The connecting point of the obstruction element (9) forms the axis of rotation (21), and because the axis of rotation (21) of the obstruction element (9) does not coincide with the longitudinal axis of the obstruction element (9) (see figure 3), the obstruction element (9) takes up an inclined position. The figures shows two other parts (28) of the obstruction means, which parts (28) form a passage for the obstruction element (9) (see also figure 5). An opening (33) in the inner container near the obstruction element (9) and a projection (34) of the obstruction element (9) enable the obstruction element (9) to rotate to a limited extent. The first wall (5) (in this preferred embodiment a grating (27)) comprises a second opening (10) for allowing a tool (8, see figure 3) to pass therethrough for moving the obstruction element (9) to the second position, in which second position the inner container (3) can be removed from the outer container.

[0035] Figure 2 is a cross-sectional view of a flap member (11) which is connected to the other part of the device by means of a hinge, through which flap member waste can pass in an open position thereof. Said open position can be realised by tilting the inner container such that the side where the flap member is located faces the ground (see also figure 5). The wall (35) of which the flap member (11) forms part makes an acute angle (36) with the first wall (5), and the hinge axis (22) is located near the end (14) of the flap member (11) remote from the first wall (5).

[0036] The other figures (3 - 6) show an embodiment comprising a straight flap member not having any ribs.

[0037] Figures 3 and 4 show the rotatable obstruction element (9) in, respectively, a first position, in which first position removing the inner container (3) from the outer container (3) is impeded, and in a second position, in which removal of the inner container (3) the outer container (2) is possible. An opening (33) in the inner container near a projection (34) of the obstruction element (9) enables the obstruction element (9) to rotate to a limited extent, by which rotation the obstruction element (9) is moved from one position to the other position. Figures 3 and 4 are schematic representations, which do not show the wall of the inner container (3) to which the obstruction element (9) is connected, but they do show the aforesaid opening (33). Accordingly, when viewing figures 3 and 4 it must be considered that in fact the illustrated opening (33) is positioned behind the obstruction element (9) but in front of the first wall (5). The axis of rotation (21) is the axis of the screw by means of which the obstruction element is connected to the inner container (3). The connection is such that rotation is possible. The obstruction element (9) is rectangular in shape. Since the axis of rotation (21) of the obstruction element (9) does not coincide with the longitudinal axis of the obstruction element (9), said obstruction element (9) takes up an inclined position. The passage is not shown in figures 3 and 4.

[0038] As figure 4 shows, the tool (8) can cause the obstruction element (9) to rotate to an upright position via a support part (18) so as to be supported on the obstruction element (9). The tool (8) comprises an engaging portion (20) for engaging the projecting part (19) for lifting the inner container (3) from the outer container (2).

[0039] Figure 5 is a view of the assembly in which the two positions of the inner container are shown. The view

on the right shows the inner container (3) as lifted from the outer container (2) with the first wall (5) still facing upwards, and the view on the left shows the inner container in a tilted position with the flap member in the open position thereof. The device preferably comprises spring means as described above. Said spring means are not shown in this figure, however. As the figure shows, in the tilted position of the inner container (3) the waste can be discharged from the inner container through an opening in the inner container (3) that is created by the flap member (11) in an open position thereof. The tool obviates the need to take hold of the inner container by hand. In this embodiment, the axis of rotation (21) of the obstruction element (9) and the hinge axis (22) of the flap member (11) extend parallel to each other. The hinge axis (22) is positioned transversely to the direction of movement, the direction of rotation in this case. In the illustration of the outer container (2) in the right-hand bottom corner, other parts (28) of the obstruction means are clearly shown, which parts (28) define a passage for the obstruction element (9). As the figure shows, said parts (28) provide several possibilities for placing the inner container (3) in the outer container (2).

[0040] Figure 6 schematically shows how the inner container (3) is placed back into the outer container (2), upon which placement the flap member (11), on account of its shape, is easily returned to a closed position. As the figure shows, the bend in the flap member (11) is advantageous, in particular during the initial phase of the said placement, for causing the end (14) of the flap member (11) to move towards the closed position via contact with the outer container (2).

Claims

1. A device (1) for collecting waste, **characterised in that** said device comprises an outer container (2) and an inner container (3) to be placed in said outer container (2), a first wall (5) facing a first side (4) of which inner container (3) is provided with several first openings (6) having a diameter of 0.8 - 5 cm, preferably 2.5 - 3.5 cm.

2. A device (1) according to claim 1, **characterised in that** the device comprises obstruction means (7) which function to make it difficult to remove the inner container (3) from the outer container (2) without making use of a tool (8).

3. A device (1) according to claim 2, **characterised in that** said obstruction means (7) comprise at least one obstruction element (9), preferably two, which is movable relative to the inner container (3), which obstruction element (9), in a first position thereof, makes it difficult to remove the inner container (3) from the outer container (2) and which, in a second position thereof, makes it possible to remove the inner container (3) from the outer container (2).

4. A device (1) according to claim 3, **characterised in that** the obstruction element (9) is elongate in shape such that its length is greater than and its width is smaller than that of a passage (23), and that the obstruction element (9) is rotatable such that its axis of rotation (21) does not coincide with the longitudinal axis of the obstruction element (9).

5. A device (1) according to claim 3 or 4, **characterised in that** said device comprises at least one second opening (10) on the first side (4), preferably in the first wall (5), for passing a tool (8) therethrough for the purpose of moving the obstruction element (9) to the second position.

6. A device (1) according to any one of claims 3 - 5, **characterised in that** part of the inner container (3), preferably a second side (12) extending transversely to the first side (4), is made up of a flap member (11), which flap member (11) allows the waste to pass therethrough in an open position thereof.

7. A device (1) according to claim 6, **characterised in that** the flap member (11) is hinged to the other part of the inner container (3).

8. A device (1) according to claim 6 or 7, **characterised in that** the flap member (11) forms at least the larger part of a second wall (13) transversely to the first wall of the inner container (3).

9. A device (1) according to any one of claims 6 - 8, **characterised in that** the wall (35) of which the flap member (11) forms part, or which is at least for the larger part made up of the flap member (11), is flat and makes an acute angle with the first wall (5), whilst the hinge axis (22) is located near the end (14) of the flap member (11) remote from the first wall (5).

10. A device (1) according to any one of claims 7 - 9, **characterised in that** the flap member (11) deflects along an imaginary line which extends substantially parallel to the hinge axis, such that in the closed position at least part of the flap member (11) extends in the direction of a wall (38) of the inner container (2) opposite the flap member (11).

11. A device (1) according to any one of claims 6 - 10, **characterised in that** the device comprises positioning means (15) for positioning the flap member (11).

12. A device (1) according to claim 11, **characterised in that** the positioning means (15) comprise magnet means, which magnet means (16) are adjusted so that the flap member (11) can be put in its open po-

sition with a slight thrust.

13. A device (1) according to claim 11 or 12, **characterised in that** the positioning means (15) comprise spring means (17), which spring means (17) are adjusted so that they keep the flap member (11) within a range of movement from the closed position to a position in which the flat member (11) extends substantially parallel to the first wall (5).

14. A device (1) according to any one of claims 7 - 13, **characterised in that** the hinge axis (22) of the flap member (11) is positioned transversely to the direction of movement of the obstruction element (9).

15. A device (1) according to any one of claims 1 - 14, **characterised in that** the device comprises an absorbent material (37) for absorbing environmentally unfriendly substances.

16. A device (1) according to any one of claims 1 - 15, **characterised in that** the inner container (3) comprises a rib (39) which extends obliquely downward from at least one side wall (30, 38) toward the bottom of the inner container (3).

17. A device (1) according to claim 16, **characterised in that** the inner container (3) comprises four ribs (39) extending obliquely downward from its four side walls toward the bottom of the inner container (3), which ribs (39) jointly form a funnel-shaped part (40).

18. A device (1) according to any one of claims 1 - 17, **characterised in that** the outer container (2) comprises an upright, preferably diverging, collar (40) extending from at least one of its side walls.

19. An assembly of a device (1) according to any one of claims 3 - 14 and a tool (8) for moving the obstruction element (9) to the second position.

20. An assembly according to claim 19, **characterised in that** said tool (8) comprises a support portion (18) for being supported on the obstruction element (9) in such a manner that said obstruction element (9) will move to the second position.

21. An assembly according to claim 19 or 20, **characterised in that** the inner container (3) comprises a projecting part (19), and the tool (8) comprises an engaging part (20) for engaging said projecting part (19) for the purpose of lifting the inner container (3) from the outer container (2).

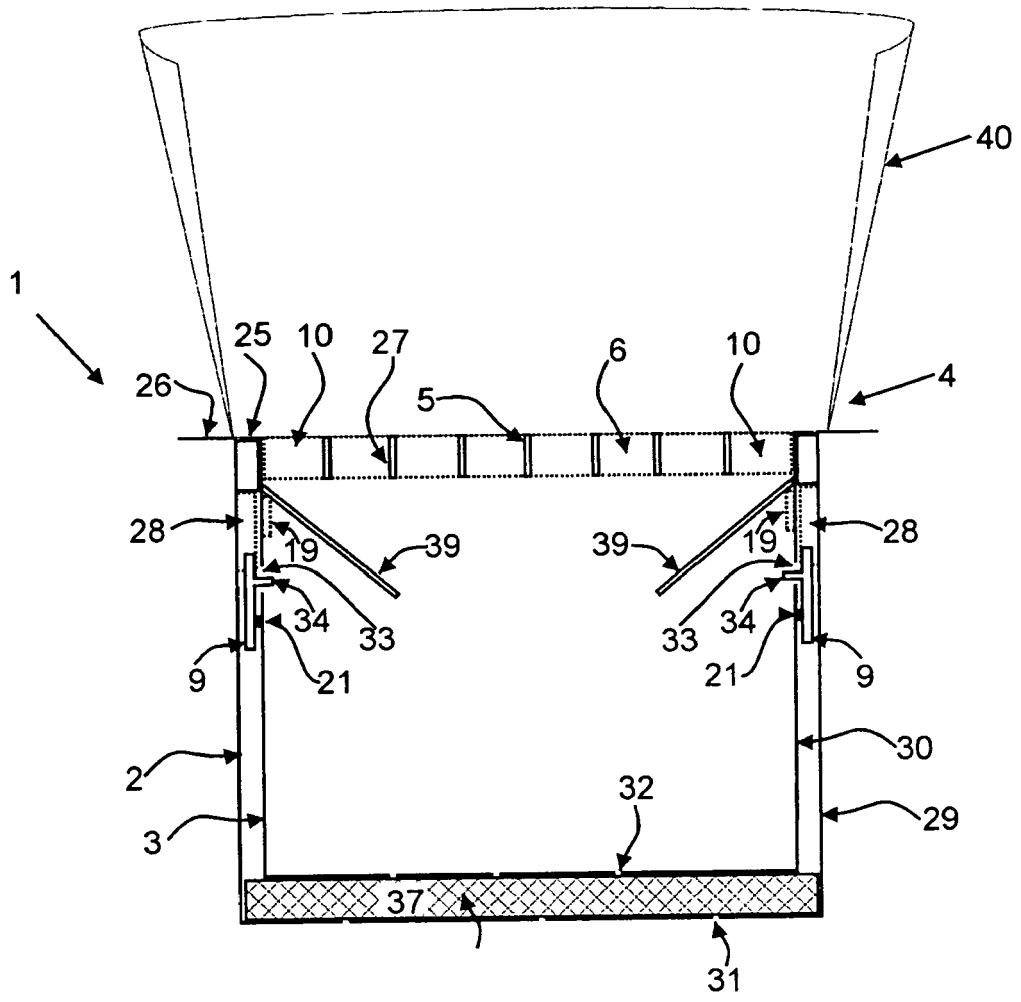
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Fig. 1

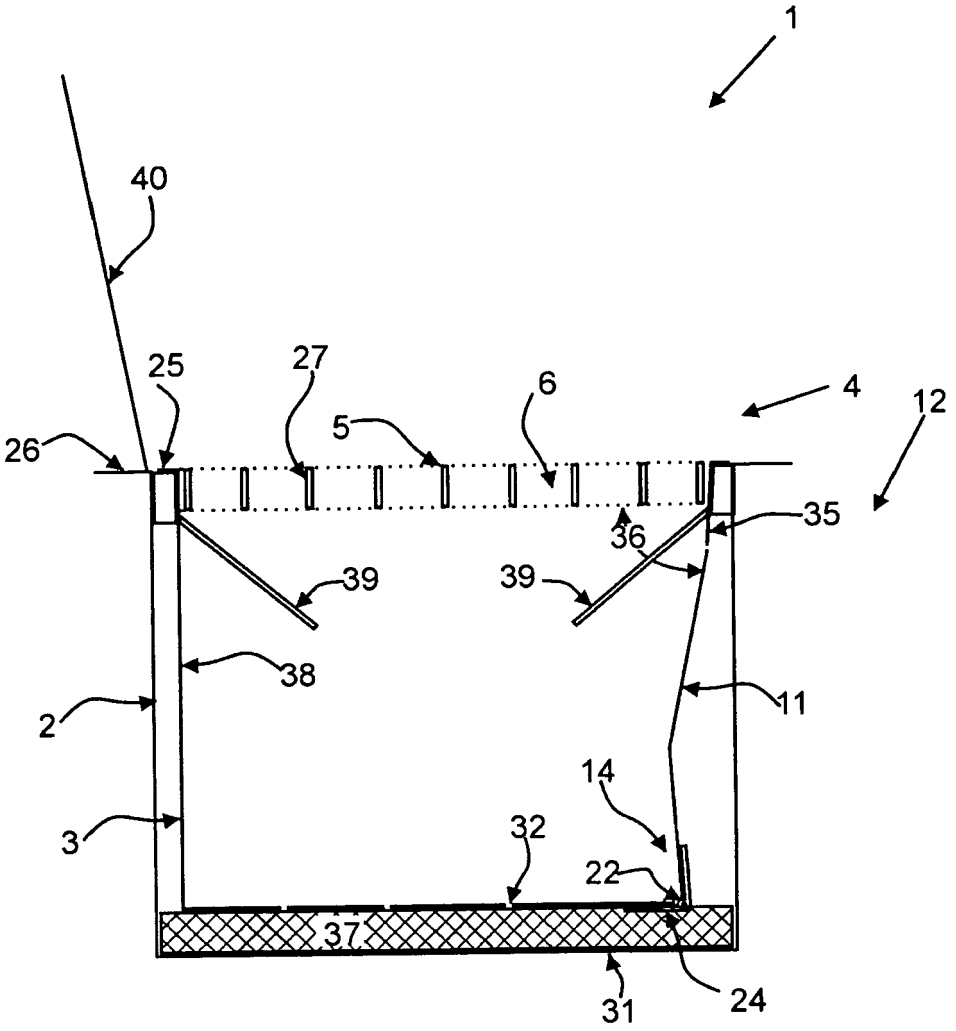


Fig. 2

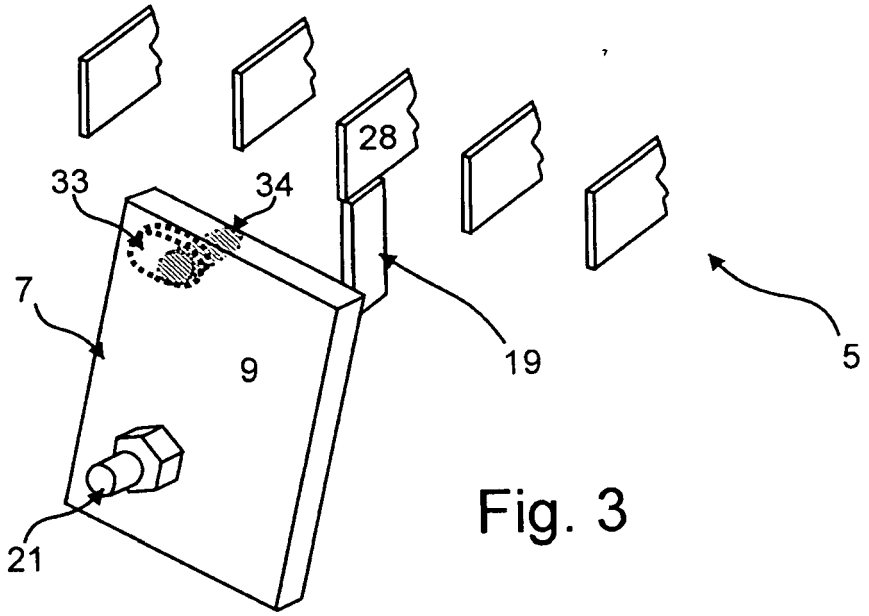


Fig. 3

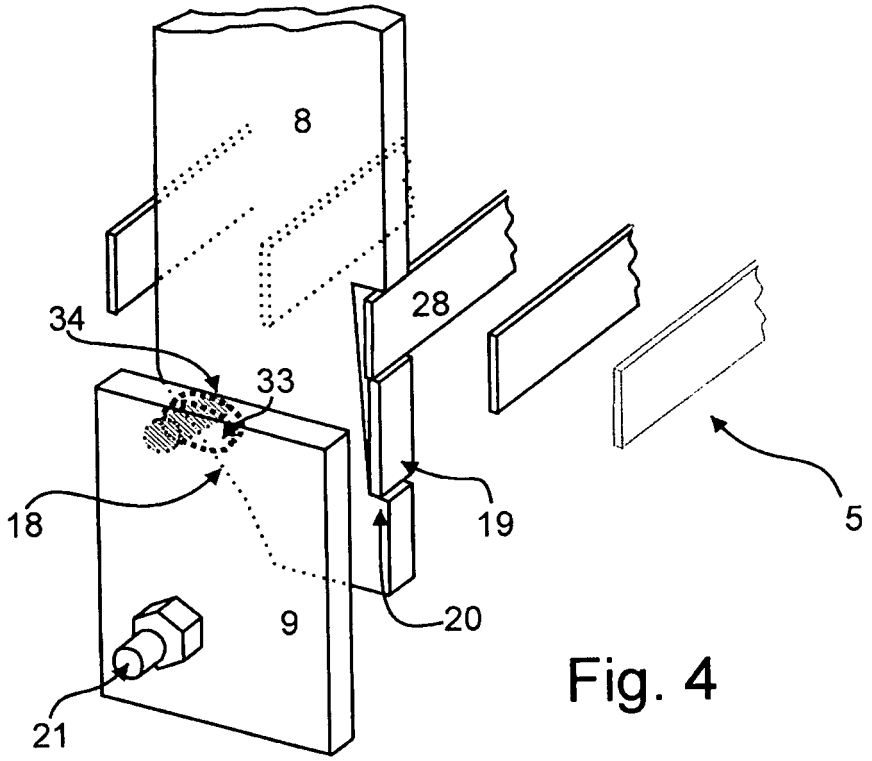
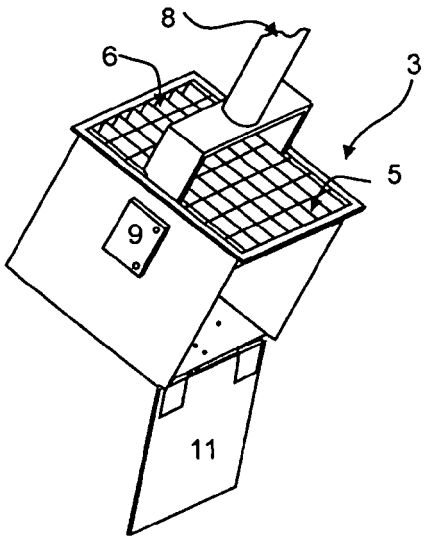


Fig. 4



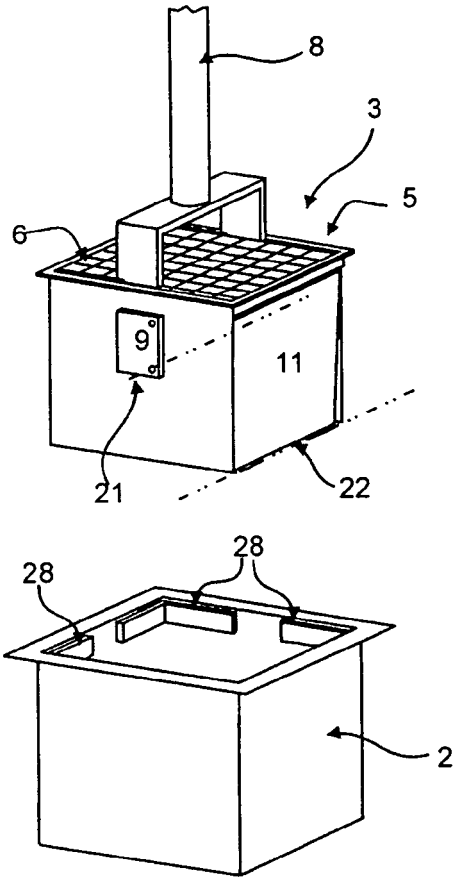


Fig. 5

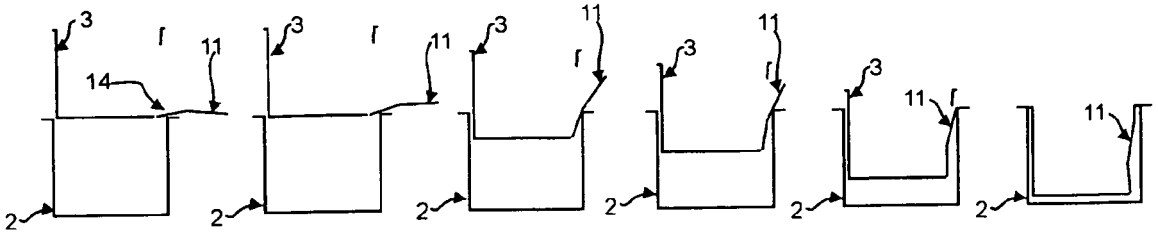


Fig. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 11 07 5001

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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Y	WO 2007/011204 A1 (VERHAGEN FRANCISCUS JOSEPHUS L [NL]) 25 January 2007 (2007-01-25) * figure 1 *	15	

TECHNICAL FIELDS SEARCHED (IPC)

A24F
E03F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	27 October 2011	Pille, Stefaan

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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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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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

- [X] Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

- [ ] No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

- [ ] All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

- [ ] As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

- [ ] Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

- [ ] None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

- [ ] The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 11 07 5001

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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27-10-2011

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