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(54) **Container into which food trays can be emptied**

(57) The container comprises a vertical body (1); a front door (4) located on one of the longitudinal faces adapted to give access to the interior of the container, be able to clean it and introduce a waste collection bin inside; a hinged trap door (6) where through a user partially introduces their tray, tipping it over to throw away

the food leftovers generated, said container having a pedal mechanism (7) intended to be actuated with the foot of a user who is holding a tray, by means whereof it is possible to open the trap door (6) without having to use their hands.

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## Description

### OBJECT OF THE INVENTION

[0001] The present invention belongs to the field of receptacles for the storage and/or transport of objects or materials, and more specifically to containers for collecting food waste.

[0002] The main object of the present invention is a container for emptying trays, specially adapted to permit a simple and convenient disposal of food waste present on said trays.

### BACKGROUND OF THE INVENTION

[0003] Currently, there is a large quantity of rubbish containers known in the state of the art, and more specifically, containers for restaurants or fast food establishments, which are generally formed by a rectangular structure, wherein a hinged or trap door is included on one of the sides thereof, so that a user pushes said door inwards and introduces a tray with rubbish, which will be housed inside a previously installed bin inside of the container.

[0004] The main drawback of these types of containers is the fact that the hinged door must be pushed manually by the user, who initially is holding and supporting the tray with the food waste, so in order to open the door they must first free up one of their hands, with the subsequent handling difficulty entailed by this whole process. Often times, a small child or an elderly person does not have sufficient strength to hold the tray in a single hand and tries to open the door with the other hand, in many cases causing said tray to fall to the floor, dirtying and spilling the food leftovers, and leading to an embarrassing situation for the user.

[0005] On the other hand, said containers have the drawback that, on many occasions, the users get their hands dirty upon trying to open the hinged door, as this has, in most cases, food leftovers and/or drink covering the exterior surface thereof.

[0006] Therefore, the technical problem proposed herein is the necessity to have a container for emptying trays which permits the user to open the hinged or trap door without having to use their hands to do so, so that it is easy to handle the tray and introduce the food leftovers inside the container, without getting their hands dirty and without requiring any strength or skill.

### DESCRIPTION OF THE INVENTION

[0007] The previously mentioned drawbacks are resolved by the present invention, providing a container for emptying trays, especially indicated for restaurants or fast food establishments, such as hamburger restaurants, open buffets, cafeterias, or such like, by means whereof it is possible to carry out a simple, fast and convenient disposal of the food leftovers generated, without the user needing to use their hands, or require specific

handling balance or capacity.

[0008] The container for emptying trays object of the present invention is of the type which comprises a vertical body, preferably manufactured from stainless steel; a front door located on one of the longitudinal faces of said vertical body, adapted to give access to the interior of the container, be able to clean it and introduce a waste collecting bin inside; and a hinged trap door whereby a user partially introduces their tray to throw away the food leftovers generated.

[0009] The container disclosed herein stands out fundamentally for incorporating a pedal mechanism intended to be actuated by the foot of the user carrying a tray, by means whereof it is possible to open the hinged trap door without having to use their hands, permitting the food waste to be thrown away inside the waste collecting bin in a practical and simple manner. Said pedal mechanism is based on a pulley system which comprises a lower tube connected to the pedal, and an upper tube connected to the trap door, said tubes being equipped at the lateral ends thereof with slots and orifices wherein a belt is attached which solidly connects the lower tube with the upper tube, so that the actuation of the pedal causes the lower tube to rotate, tightening the belt and, consequently, making the upper tube rotate, which causes the inward opening of the trap door.

[0010] The container object of the invention preferably features on the upper face thereof tray securing means especially adapted to facilitate the placement and stacking thereof once emptied. Said tray securing means comprises peripherally arranged rods, dimensionally adapted to prevent the lateral movement of the trays, preventing them from falling and permitting the stacking thereof.

[0011] Likewise, it has been provided that the container object of the invention has at least two wheels at the lower end thereof, adapted to permit a convenient transport and movement of the container. Additionally, said container can feature adjustable stubs for height, by means whereof it can be adapted to different slopes and irregularities of the floor.

### DESCRIPTION OF THE DRAWINGS

[0012] In order to complement the description being made and with the purpose of aiding towards a better understanding of the characteristics of the invention, in accordance with a preferred example of embodiment thereof, a set of drawings is attached as an integral part of said description, wherein the following, in an illustrative and non-limitative character, has been represented:

Figure 1 shows a general perspective view of the container for emptying food trays object of the present invention.

Figures 2A and 2B show front and rear perspective views, respectively, of the upper tube connected to the trap door.

Figures 3A and 3B show a side view and a plan view,

respectively, of the lower tube connected to the pedal.

Figures 4A and 4B show close-up views of one of the lateral ends of the lower and upper tubes connected to the pedal and to the trap door, respectively. Figure 5 shows a side view of the lower and upper tubes, wherein the manner of fastening and tying the belt to said tubes is observed.

## PREFERRED EMBODIMENT OF THE INVENTION

**[0013]** In accordance with a preferred embodiment of the invention shown in figure 1, the container for emptying trays comprises a vertical rectangular body (1) manufactured completely of stainless steel and which features on the upper face thereof tray securing means (2) which comprises peripherally arranged rods (3) dimensionally adapted to prevent the lateral movement of the trays, preventing them from falling to the floor and permitting the stacking thereof; a front door (4) located on one of the longitudinal faces adapted to give access to the interior of the container, be able to clean it and introduce a waste collection bin inside; and a hinged trap door (6), represented in figures 2A and 2B, wherethrough a user partially introduces their tray, tipping it over to throw away the food leftovers generated.

**[0014]** Said container stands out fundamentally for incorporating a pedal mechanism (7) represented in figures 1, 3A, 3B and 4A, intended to be actuated by the foot of the user who is holding a tray, by means whereof it is possible to open the trap door (6) without having to use their hands, allowing them to throw away the food waste inside the previously installed waste collection bin in the interior of the container.

**[0015]** Said pedal mechanism (7) is based on a pulley system which comprises a lower tube (8) shown in figures 3A, 3B and 4A, connected to the pedal (7), and an upper tube (9) shown in figures 2A, 2B and 4B, connected to the trap door (6), said tubes (8, 9) being equipped at their lateral ends with slots (10) and orifices (11) wherein a belt is attached.

**[0016]** Said belt (12) represented in figure 5, connects the lower tube (8) with the upper tube (9), so that the actuation of the pedal (7) causes the lower tube to rotate, tightening the belt (12) and, consequently, making the upper tube (9) rotate, which causes the inward opening of the hinged trap door (6).

the food leftovers generated; and a pedal mechanism (7) intended to be actuated with the foot of a user who is holding a tray, **characterised in that** said pedal mechanism (7) is based on a pulley system which comprises a lower tube (8) connected to the pedal (7), and an upper tube (9) connected to the trap door (6), said tubes (8, 9) being equipped at their lateral ends with slots (10) and orifices (11) wherein a belt (12) is attached which connects the lower tube (8) with the upper tube (9), so that the actuation of the pedal (7) causes the lower tube (8) to rotate, tightening the belt (12) and, consequently, making the upper tube (9) rotate, which causes the inward opening of the trap door (6).

2. Container for emptying food trays according to claim 1, **characterised in that** it comprises tray securing means (2) on the upper face of the body (1), which comprise peripherally arranged rods (3), and dimensionally adapted to prevent the lateral movement of the trays, keeping them from falling on the floor.
3. Container for emptying food trays according to claim 1, **characterised in that** the body (1) is manufactured from stainless steel.

## Claims

1. Container for emptying food trays which comprises a vertical body (1); a front door (4) located on one of the longitudinal faces of the body (1) adapted to give access to the interior of the container, be able to clean it and introduce a waste collection bin inside; a hinged trap door (6) wherethrough a user partially introduces their tray, tipping it over to throw away

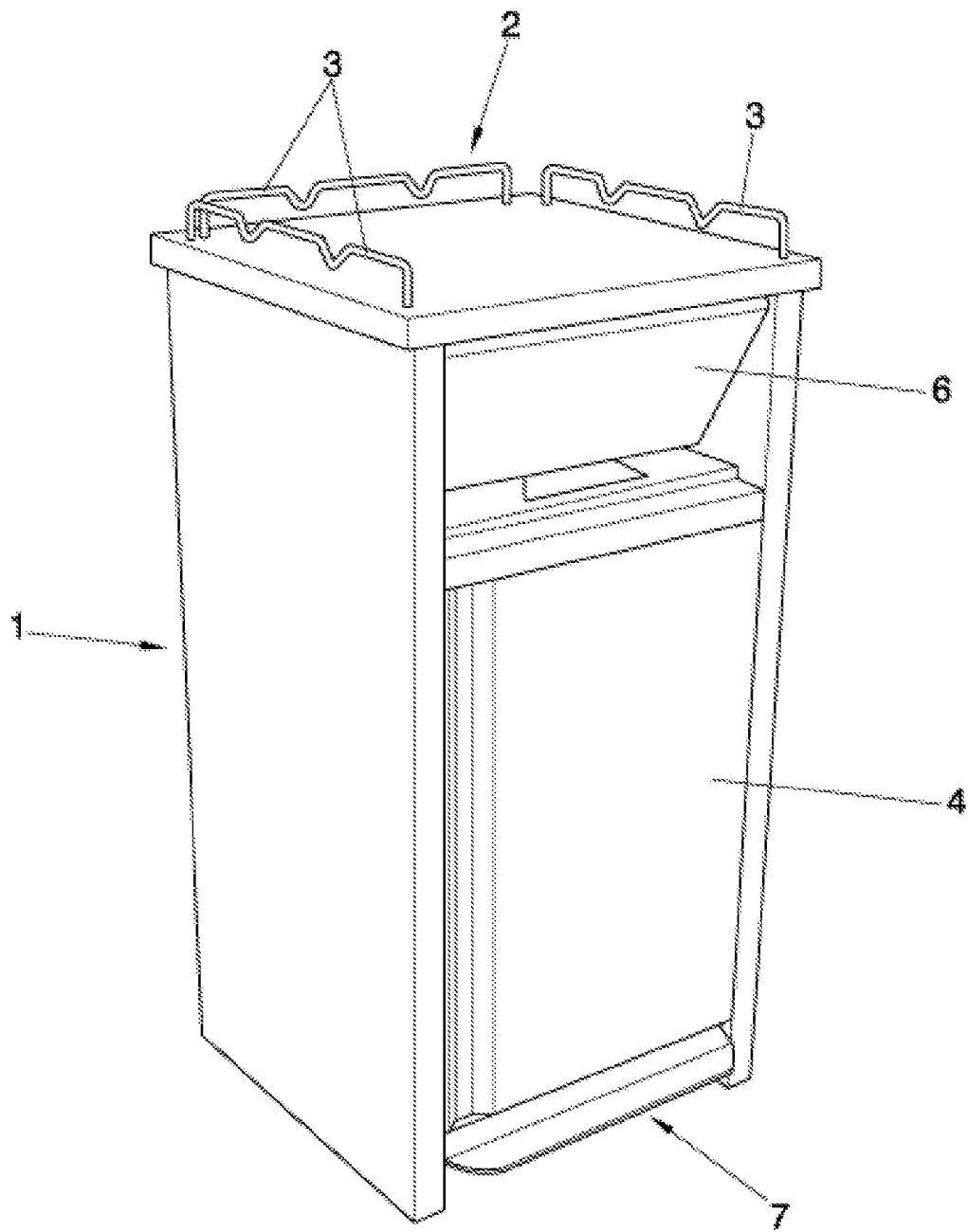
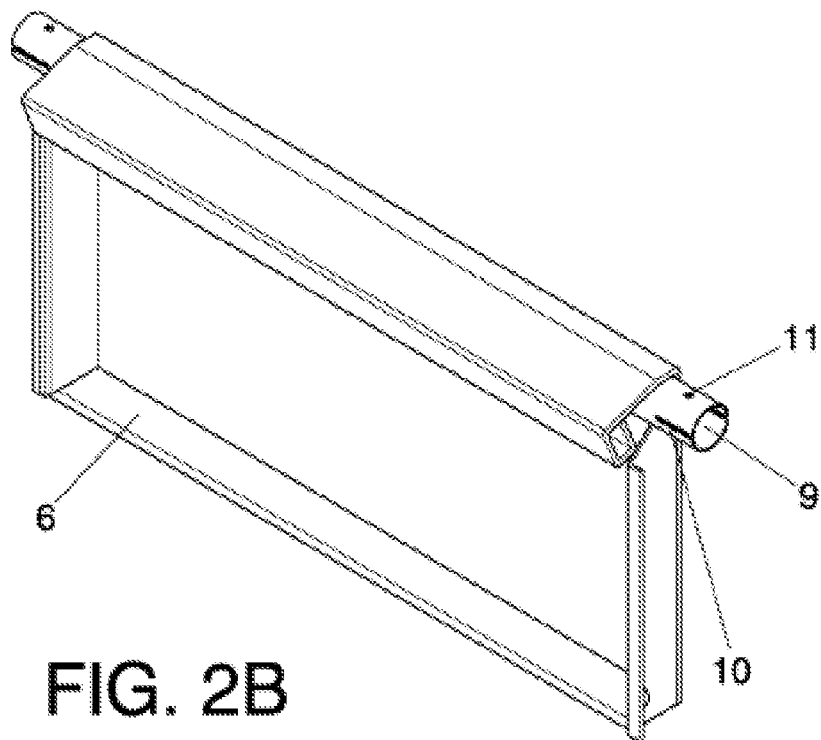
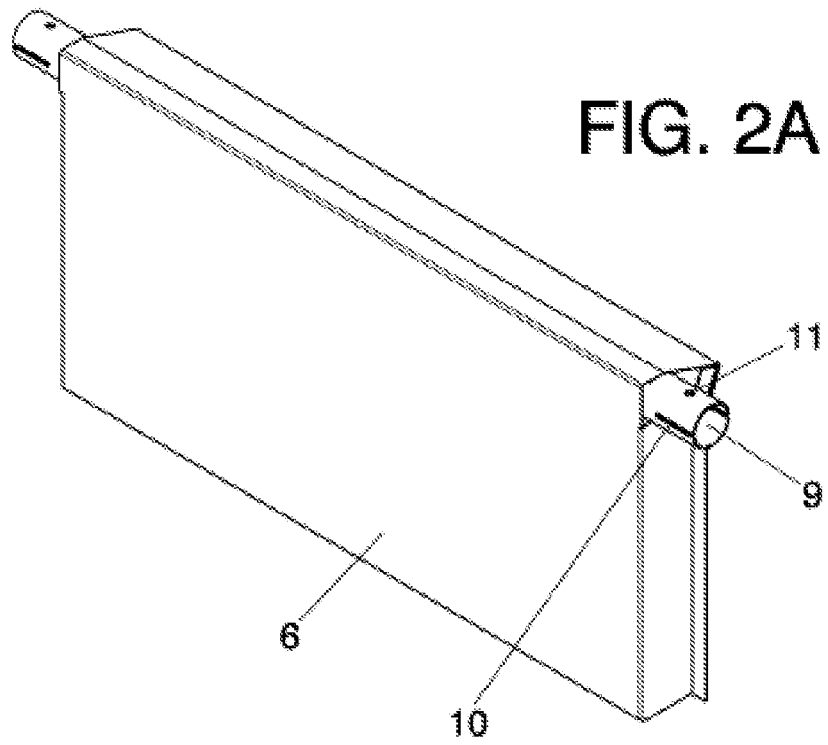
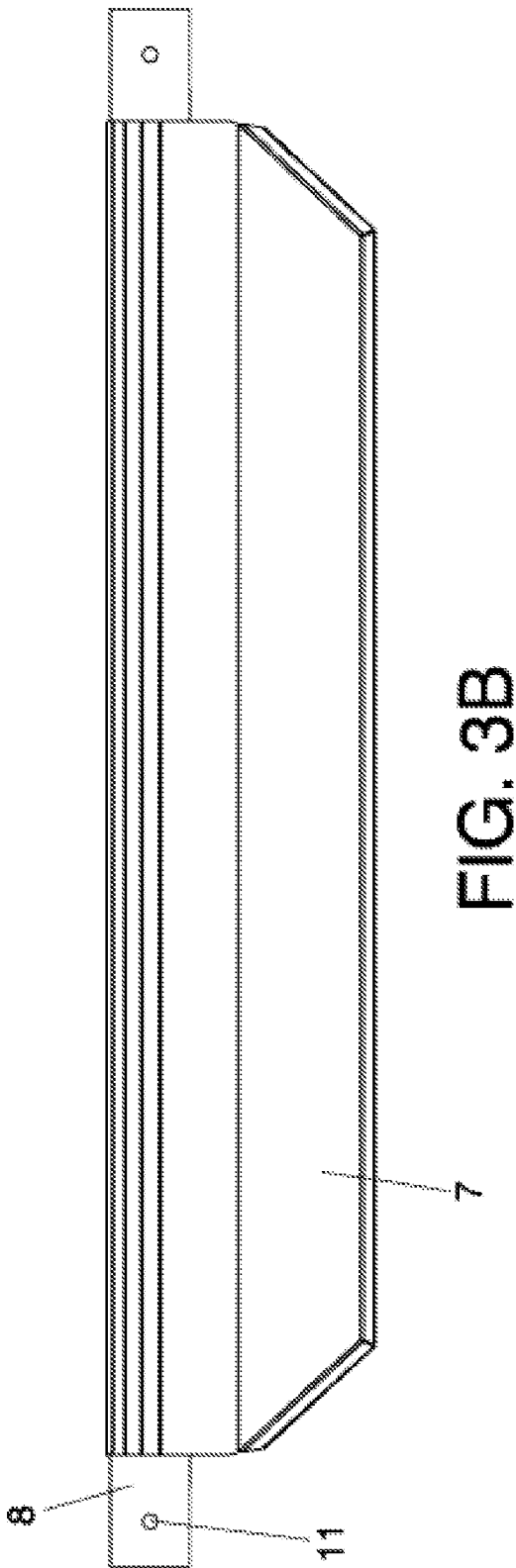
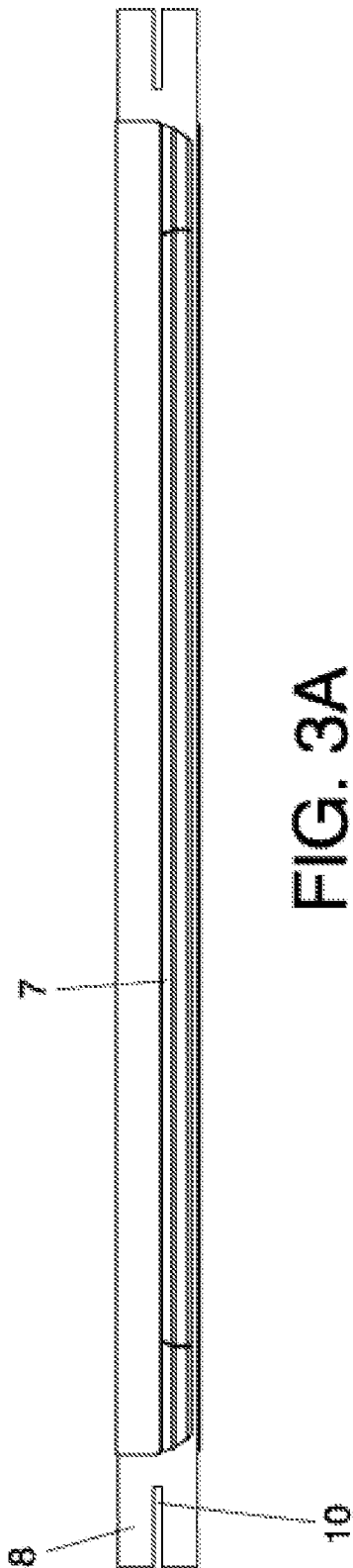


FIG. 1





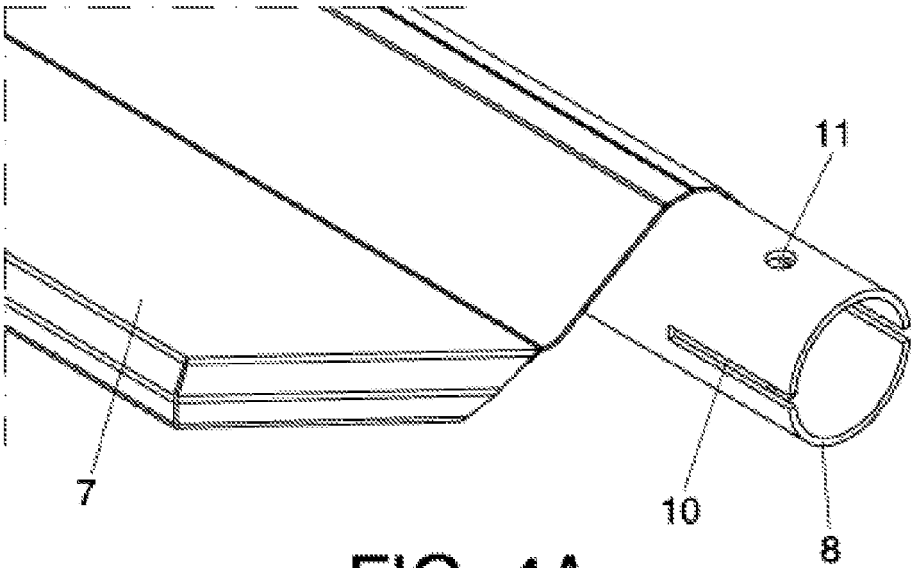


FIG. 4A

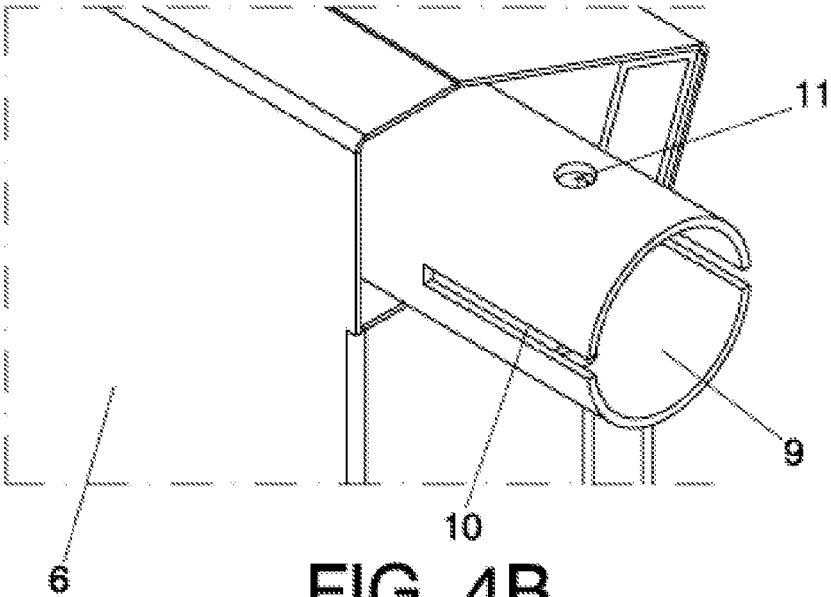


FIG. 4B

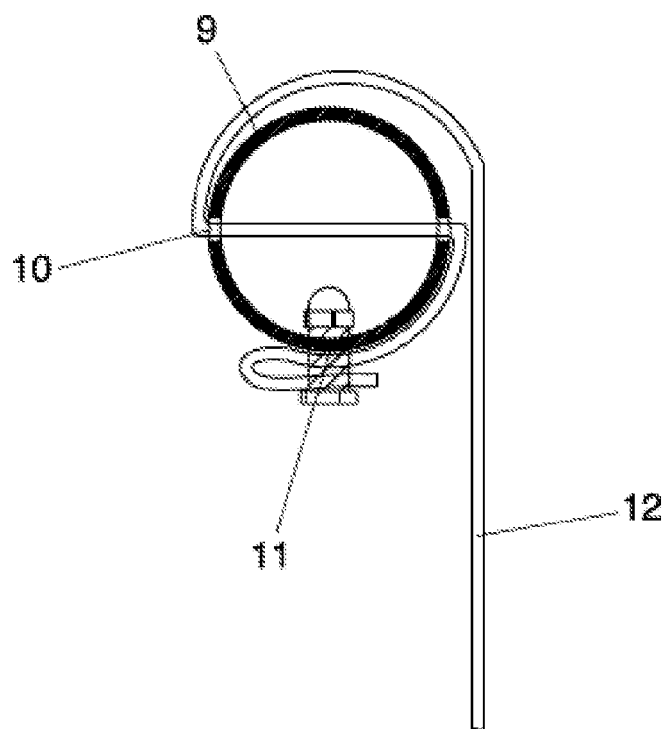
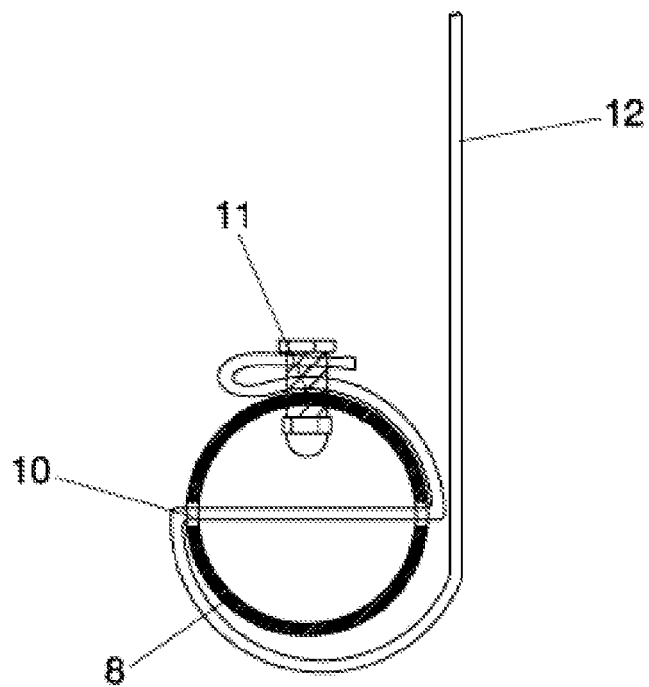


FIG. 5





## EUROPEAN SEARCH REPORT

Application Number  
EP 10 18 9431

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                    |                                                                                                                                    |                                                                                                                                                                                                                                                                              |                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Category                                                                                                                                                                                                                                               | Citation of document with indication, where appropriate, of relevant passages                                                      | Relevant to claim                                                                                                                                                                                                                                                            | CLASSIFICATION OF THE APPLICATION (IPC)    |
| X                                                                                                                                                                                                                                                      | US 6 267 260 B1 (K. LYONS)<br>31 July 2001 (2001-07-31)<br>* column 5, line 32 - line 58 *<br>* figures 5,6 *                      | 1-3                                                                                                                                                                                                                                                                          | INV.<br>B65F1/16                           |
| X                                                                                                                                                                                                                                                      | US 6 209 744 B1 (W. GILL)<br>3 April 2001 (2001-04-03)<br>* column 4, line 49 - column 5, line 24 *<br>* figures 1-3 *             | 1-3                                                                                                                                                                                                                                                                          |                                            |
| X                                                                                                                                                                                                                                                      | US 2006/283929 A1 (G. LIM)<br>21 December 2006 (2006-12-21)<br>* paragraph [0020] - paragraph [0028] *<br>* figures 1-9 *          | 1-3                                                                                                                                                                                                                                                                          |                                            |
| X                                                                                                                                                                                                                                                      | US 5 147 056 A (M. MA)<br>15 September 1992 (1992-09-15)<br>* column 2, line 19 - column 3, line 26 *<br>* figures 1-4 *           | 1-3                                                                                                                                                                                                                                                                          |                                            |
| X                                                                                                                                                                                                                                                      | US 5 372 271 A (M. MILLER ET AL.)<br>13 December 1994 (1994-12-13)<br>* column 3, line 56 - column 5, line 24 *<br>* figures 1-4 * | 1-3                                                                                                                                                                                                                                                                          | TECHNICAL FIELDS<br>SEARCHED (IPC)<br>B65F |
| The present search report has been drawn up for all claims                                                                                                                                                                                             |                                                                                                                                    |                                                                                                                                                                                                                                                                              |                                            |
| Place of search<br>The Hague                                                                                                                                                                                                                           |                                                                                                                                    | Date of completion of the search<br>23 March 2011                                                                                                                                                                                                                            | Examiner<br>Smolders, Rob                  |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                    | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |                                            |

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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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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23-03-2011

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