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(54) **SUPPORT AND PLATE ASSEMBLY FOR HOLDING WASTE CONTAINERS**

(57) Support and plate assembly for holding waste containers, comprising an assembly that incorporates a holding device (1), and includes a magnetic element (5) in the form of a fork (3) that allows attachment to a waste container (2) with a lid (8) by means of at least two galvanised plates (6) and (7), inside and outside ones, that are installed on the front of said container, in such a way that their housing provides vertical, orbital and slightly

horizontal movement, which favour the optimal connection to the waste container. The invention also allows installation on slopes and uneven areas, the container-holding device incorporates two independent housings with at least 3 different height settings, in order to regulate and mount the device in the most favourable connection position when the container is inclined.

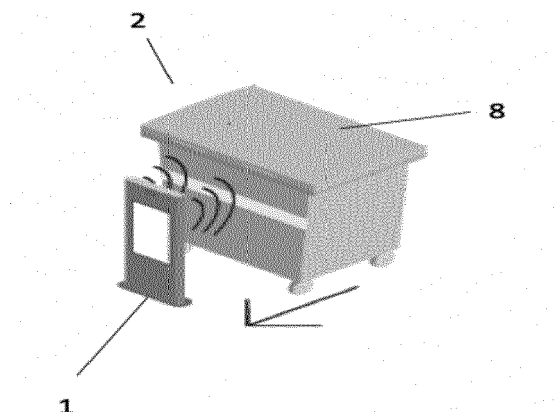


FIG 6A

Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a support and plate assembly for holding waste containers on the public road, the main purpose of which is to retain the containers in a fixed location in a safe and stable manner, in such a way as to prevent them from being displaced by the wind, rain or from being hit by a car when parking, as well as to achieve faster placement of the container in its correct location after it has been emptied.

BACKGROUND OF THE INVENTION

[0002] At present, conventional waste containers which are located on pavements or the sides of urban roads cause major problems for users and refuse collection workers, due to their tendency to move from their location. The solutions adopted to improve their retention at a fixed point are based on the use of fences or retaining frames, or even recesses in the pavement itself, where their support wheels can be placed. These systems are not very effective, as they sometimes seriously impair the manoeuvrability of the container during the collection process.

[0003] US patent US2904345 is directed to means of attachment for lifting and moving a container, in particular a dustbin, wherein the device is a trolley-type device for holding and transporting a container whereby the container can be tilted and moved on wheels from one location to another. Patent application US4313612 describes a convertible waste container having retractable wheels located at four corners. Retraction of the wheel assembly converts a wheeled carrier for transport into a ground-supported unit that is more or less a stationary support for a waste container, and it further describes coupling means for joining two waste containers together.

[0004] Document EP0423515 discloses a waste container that can pivot about a vertical axis and that can be removed from the pivot support points. The lid is removably hinged to the support by means of a horizontal axis, and is held closed by means of control means when the dustbin is turned inwards and held open when the dustbin is turned outwards. One of the problems with the invention is that the lid requires installation space when opened and cannot be used as an easily accessible shelf.

[0005] Spanish utility model 200002985U discloses a device for fixing and retaining waste containers on the public road. It basically comprises a container fitted with a mechanical anchorage associated with a lock attached to a support anchored to the ground, so that the container is fixed and immobilised when the mechanical anchorage engages the lock of the ground-anchored support.

[0006] The main advantage of the assembly of the present invention is to prevent waste containers from being displaced by wind, water or slopes where they are located. Furthermore, it helps us to keep the containers

in a fixed, predetermined and orderly place, ensuring that the user always deposits the waste in a safe way. This is so because the opening lid is oriented towards the pavement and is completely attached to it, which prevents the container from moving when opening the lid, and prevents having to get off the pavement to do so, making it easier to use for people with reduced mobility. In the event of a collision caused by a vehicle at the time of parking, neither the vehicle nor the container would suffer any damage, as the container would move without disengaging from the support.

[0007] The assembly is ideal for the waste utility workforce, as in addition to finding the container in place, the mechanics of returning waste containers are quick and easy. The advertising medium provides an added value.

DESCRIPTION OF THE DRAWINGS

[0008] In order to complement the description being made and with the object to help to a better understanding of the features of the invention, in accordance with a preferred example of the practical embodiment thereof, a set of drawings is attached as an integral part of said description, in which the following has been represented with an illustrative and non-limiting character:

FIG 1 shows a view of the holding device (1) with a detail of the forks (2), wherein the three heights of the slots (3) are shown.

FIG 2 shows a view of the magnetic element (5) that is inserted into the slots (3) of the holding device (1).

FIG 3 shows a view of the first (6) and second plate (2), wherein a plurality of holes for insertion by means of screws and lock nuts are shown.

FIG 4 shows a view of the arrangement of the holding device (1) on the pavement and its levelling with the lid (8) of the waste container (2).

FIG 5 shows a view of the arrangement of the first plate (6) on the outside and the insertion of the second plate (7) into the waste container (2).

FIG 6 - in this view the arrow indicates the displacement of the waste container (2) in the direction of the holding device (1) for installation.

FIG 6B - this view shows the waste container (2) anchored to the holding device (1) and its position in relation to the pavement.

FIG 6C - in this view the arrow indicates the necessary displacement of the waste container (2) to become unanchored from the holding device (1).

PREFERRED EMBODIMENT OF THE INVENTION

[0009] The present invention proposes a support and plate assembly for holding waste containers intended for the stable retention of a main waste container on the public road, wherein the assembly incorporates a holding device and includes a magnetic element in the form of a fork that allows the attachment to a waste container by means of at least two galvanised plates, inside and outside ones, which are installed on the front of said container, in such a way that their housing provides vertical, orbital and slightly horizontal movement, which favour the optimal connection to the waste container. The invention also allows installation on slopes and uneven areas, the container-holding device incorporates two independent housings with at least 3 different height settings, in order to regulate and mount the device in the most favourable connection position, when the container is inclined.

[0010] The support and plate assembly for holding waste containers comprises a holding device (1) which is fixed to the pavement by means of a hole of at least 25 cm, such that the holding device (1) is below the lid (8) of a waste container (2), the hole can be filled with mortar, cement or a fixing material, in such a way as to ensure its fixation. The holding device includes at least two forks (3) which are arranged on the sides of said holding device (1), with at least three insertion slots (4) with different heights arranged in each of the forks (3) and allowing the insertion of a magnetic element (5) in said slots (4) at the selected height. This makes it possible to regulate the most favourable connection position, in particular when the container is inclined, whereby the insertion height position of the magnetic element (5) in the slots (4) is selected depending on the location of the waste container (2), the slope of the pavement at the location of the waste container (2) or the insertion depth in the pavement of the holding device (1); a first plate (6) is arranged on the outside of the waste container (2); and a second plate (7) is arranged on the inside of the waste container (2), such that said second plate (7) coincides in height with the first plate (6), and that said first plate (6) and second plate (7) are arranged parallel to each other and are separated by the wall of the waste container (2).

[0011] After inserting the magnetic element (5) in the selected height of the slots (4), the remaining unoccupied slots are protected from the environment by inserting a plug.

[0012] The magnetic device (5) which is inserted in the fork (3) allows it to perform a vertical, orbital and slightly horizontal movement, which favour the optimal connection to the waste container (2).

[0013] The first (6) and second (7) plates are made of galvanised material and are at least 3 and 1.5 mm deep respectively, wherein each of the plates (6) and (7) has a number of holes on its surface, which allow a correct installation on the exterior and interior front of the waste

container (2) by means of screws and lock nuts that allow an optimal fixing.

[0014] The operation of the support and plate assembly for holding waste containers is easily operated by attaching the waste container (2) to the holding device (1) which is located on the pavement by means of the magnetic element (5) which is incorporated in the holding device (1), and the first and second plates (6) and (7) are arranged on the waste container (2), so that the lid (8) of the waste container (2) is in the direction of the pavement, allowing the lid (8) to be easily opened or closed. When the waste container (2) needs to be detached from the holding device (1), it is sufficient to pull the waste container (2) from one of its ends.

[0015] All the elements of the assembly are mounted with anti-theft security screws.

[0016] Among the mounting options, it can be installed on the ground with construction work, or it can be screwed to the ground. In the first case it is supplied 30 cm longer for optimal installation, and in the second case it is supplied with an anchor plate.

Claims

1. Support and plate assembly for holding waste containers intended for the stable retention of a main waste container on the public road, **characterised in that** it comprises a holding device (1) which is fixed to the pavement in such a way that the holding device (1) is below the lid (8) of a waste container (2), wherein the holding device includes at least two forks (3) which are arranged on the sides of said holding device (1), with at least three insertion slots (4) with different heights arranged in each of the forks (3), and allowing the insertion of a magnetic element (5) in said slots (4) at the selected height; a first plate (6) is arranged on the outside of the waste container (2); and a second plate (7) is arranged on the inside of the waste container (2), such that said second plate (7) coincides in height with the first plate (6), and that said first plate (6) and second plate (7) are arranged parallel to each other and are separated by the wall of the waste container (2).
2. Support and plate assembly for holding waste containers according to claim 1, **characterised by** the fact that the holding device (1) is fixed to the pavement by means of a hole of at least 25 cm.
3. Support and plate assembly for holding waste containers according to claim 1, **characterised by** the fact that the insertion height of the magnetic element (5) in the slots (4) is selected according to the location of the waste container (2), the slope of the pavement at the location of the waste container (2) and the insertion depth in the pavement of the holding device (1).

4. Support and plate assembly for holding waste containers according to claim 1, **characterised by** the fact that the first (6) and second (7) plates are made of galvanised material.

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5. Support and plate assembly for holding waste containers according to claim 1, **characterised by** the fact that the first plate (6), which is arranged outside the waste container (2), is at least 3 mm deep.

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6. Support and plate assembly for holding waste containers according to claim 1, **characterised by** the fact that the second plate (7), which is arranged inside the waste container (2), is at least 1.5 mm deep.

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7. Support and plate assembly for holding waste containers according to claim 1, **characterised by** the fact that each of the plates (6) and (7) have a number of holes on their surface, which allow them to be installed on the exterior and interior front of the waste container (2) by means of screws and lock nuts.

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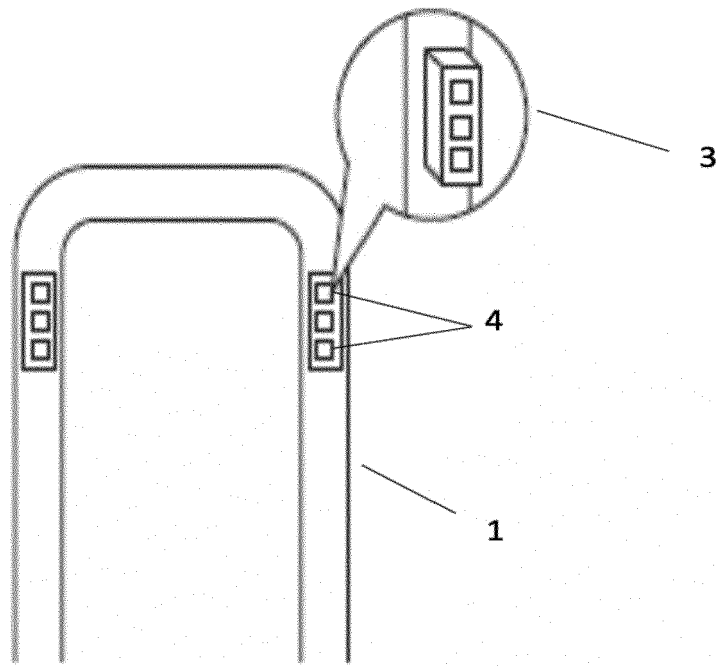


FIG 1

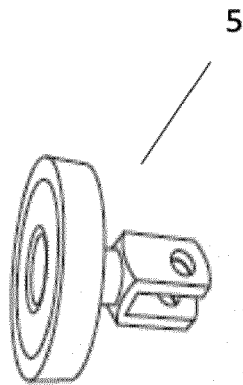


FIG 2

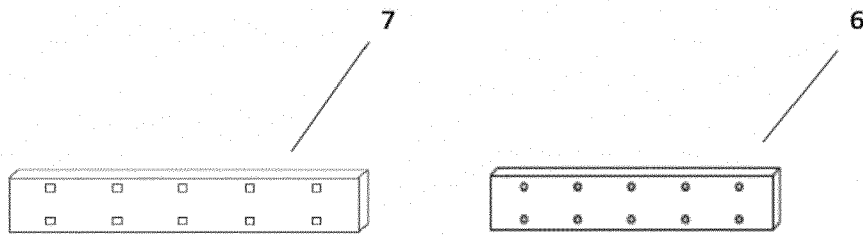


FIG 3

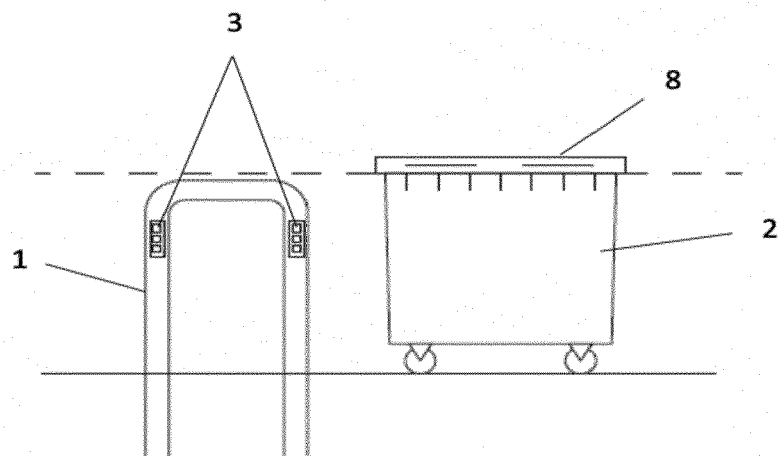


FIG 4

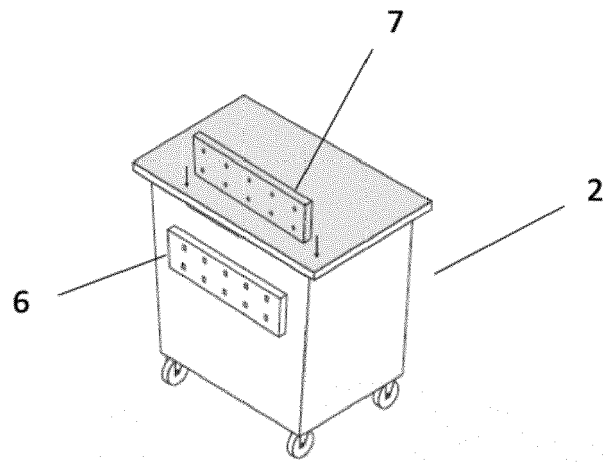


FIG 5

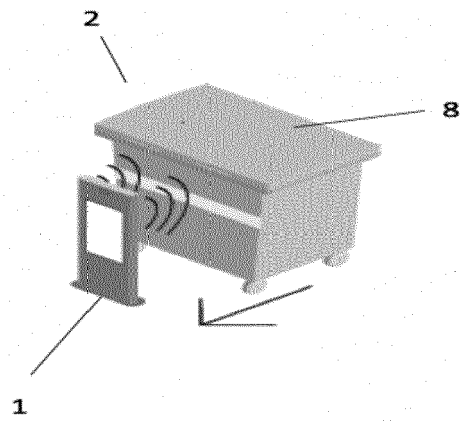


FIG 6A

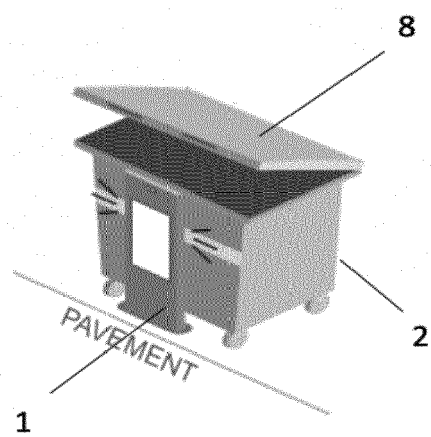
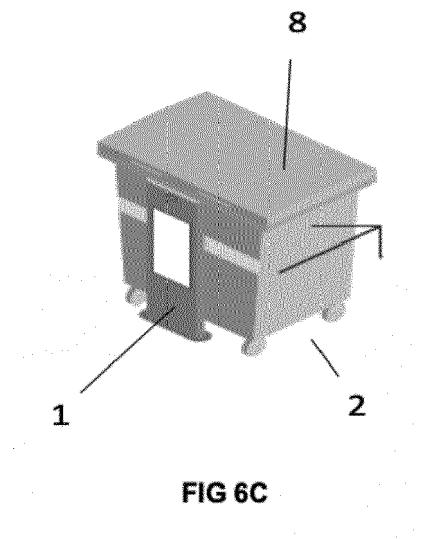


FIG 6B





EUROPEAN SEARCH REPORT

Application Number

EP 22 02 0257

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EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	EP 2 636 612 A1 (BORG JOHN [DK]) 11 September 2013 (2013-09-11) * figure 3 *	1-7	INV. B65F1/14 H01F7/02
Y	ES 1 074 373 U (ACEROS Y CONSTRUCCIONES ESPINOSA S L [ES]) 20 April 2011 (2011-04-20) * figure 2 *	1-7	
Y	ES 1 235 224 U (CEPILLERIA IND ALAVESA S L [ES]) 25 September 2019 (2019-09-25) * figure 1 *	1-7	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65F H01F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 October 2022	Examiner de Miscault, Xavier
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	

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

EP 22 02 0257

5 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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19-10-2022

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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15	ES 1074373	U	20-04-2011	NONE

	ES 1235224	U	25-09-2019	NONE

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

REFERENCES CITED IN THE DESCRIPTION

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