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(71) Applicant: **KGN S.R.L.**
36030 Montecchio Precalcino (VI) (IT)

(72) Inventor: **Nereo, Sella**
36030 Montecchio Precalcino VI (IT)

(74) Representative: **Baldissera, Marco Felice**
Arkonsult - Div. Baldissera Brevetti
Via Serio, 3
35135 Padova PD (IT)

(54) Hood for introducing garbage

(57) A hood for introducing garbage, comprising an external supporting structure (1), a consigning cylinder made of two mobile half cylinders (2), a device for the simultaneous rotation, in a clockwise and counter clockwise direction, of the two mobile half cylinders (2), a lock (9), an opening lever (3) to actuate the two mobile half cylinders (2), and a case for the housing of a coin box and electronic data identifying, measuring and transmitting systems (5).

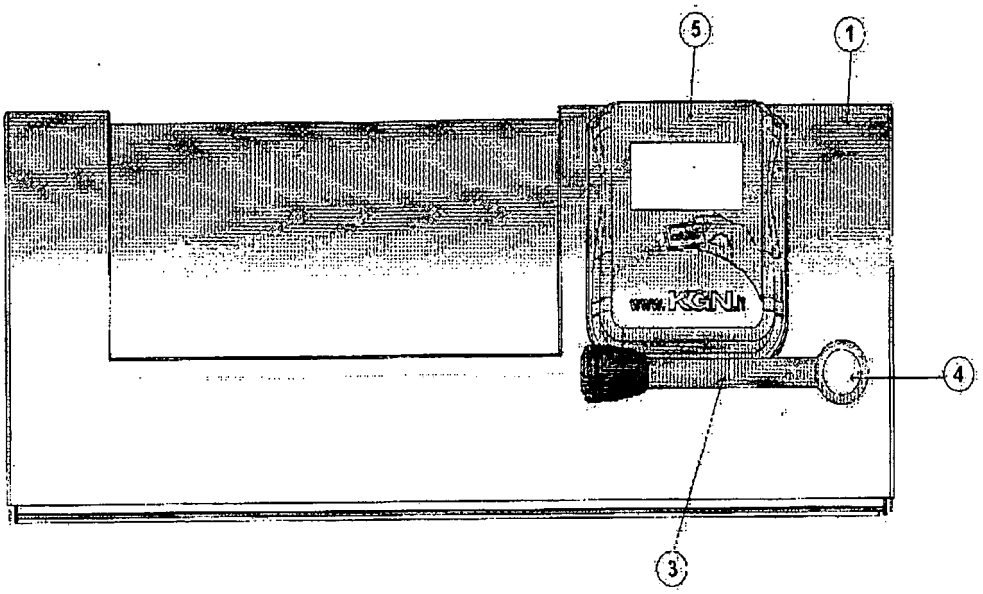

FIG. 1

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Description

Text of description

[0001] This invention relates to fixtures for limiting and selecting a garbage consignment and, in particular, to ways of actuating the hoods for the controlling of garbage consignments.

Field of application of the invention

[0002] The new hood allows all users an easier consignment of garbage, as it is fitted with a frontal actuating lever, set up at a position closest to the user and working on a rotating axis that does not require a forward stretching and uplifting of the arm.

[0003] The fixture keeps its functional features unchanged, which allows it to be installed on all stationary containers used in an appointed territory, whether in the form of large volume bins or containers wholly or partially set into the ground, and offers a more comfortable actuating of the opening device, especially favouring all those that would, because of their stature, limitations or inabilities of motion, be unable to move a lever in a direction perpendicular to the bin.

State of the art

[0004] The market offers hoods to control garbage consignment, but none is equipped with a front-acting lever.

[0005] The introduction of an opening system set up in a horizontal rather than vertical direction to the fixture thus represents an innovation for this type of product, which for the first time faces and resolves the problem of a garbage consignment on the part of citizens and not last by individuals (for instance, aged or handicapped persons) that are incapable of effecting the motions needed to actuate the opening mechanisms.

Summary of the invention

[0006] The subject invention allows overcoming the drawbacks related to the devices mentioned in the state of the art, by offering a solution that provides for the shifting over of a mechanism (a lever) to open a hood for consigning garbage from a lateral to a frontal side, thus allowing it to be more readily actuated by any user.

[0007] The actuation of the lever is in fact done in a clockwise direction, by the simple circular motion of an arm, without requiring any extension or application of a particular force. This is the contrary of any leverage system applied to this date, which forces a full-length extension of an arm, thus penalizing individuals of a short stature or with handicaps.

Description of the drawings

[0008] The enclosed drawings show further information and greater detail of a hood in a preferred yet non-exclusive form of embodiment.

Fig. 1 shows an overall frontal view of the device (the hood), in an embodiment according to this invention.

The device is made of:

- An outer supporting structure (1),
- A consigning cylinder made of two mobile half-cylinders (2),
- A device for simultaneously rotating the two half-cylinders in a clockwise and counter-clockwise direction, fitted with a lock (9),
- An opening lever to actuate the half cylinders (3),
- A coin box and the devices for electronic data identification, measuring and transmission (5),

Fig. 2 shows a top view of the internal arrangement of the moving mechanisms to open the rotating cylinder, with a perpendicular deviation of the motion with respect to the axis of the mentioned cylinder, through a shaft (4) and a bevel gear pair (7).

[0009] The bevel gear pair (7) can be associated with appropriate gears to reduce the force that the user must exert on the opening lever.

Applicative examples

[0010] As noted in the foregoing technical drawings, the device consists of an appropriately profiled stainless steel structure (1) installed lengthwise on the lids of garbage containers of various types, for the purpose of limiting the volume of garbage collected. It carries at its extremities walls appropriately fabricated to act as a supporting structure capable of housing the leveraging mechanisms and gears needed to rotate the consigning cylinder, thus allowing it to slide freely. The cylinder consists of two mobile, appropriately shifted parts (half cylinders) (2) opening and closing to receive the garbage collected by the users, while limiting it to the pre-established maximum (volume).

[0011] A consigning cylinder actuating lever (3) projects from the right hand front side of the hood, whose operation can be regulated by access limiting devices (electronic identifying devices or coin mechanisms) (5) housed in the same area of the hood, and controls a (mechanical or electrical) lock (9).

[0012] An example of a specifically and generally valid application of this garbage-consigning hood is that fitted with an electronic interface (5) for identifying the user and reading and forwarding the data for garbage fee control, while noting that the functionality object of the invention rests on the type and mode of actuating its opening lever.

[0013] The user obtains from his municipality a transponder key with unique code number, which after recognition by the hood's Rfid reading point (5) enables him

to collect, after unblocking the lock (9) and allowing the actuation of the opening lever (3). The user is at this point informed by acoustic signals and instructions appearing on the electronic display (5) and can open the hood (2) by acting on the appropriate lever (3) by simply rotating it from the left to the right. After all the garbage is placed inside the hood, the same is closed by returning the lever to its original position.

Claims

1. Hood for the consignment of garbage applicable to existing containers (bins, bells, containers wholly or partially set into the ground), comprising:

    - An external supporting structure (1),
    - A consigning cylinder, made of two mobile half cylinders (2),
    - A device for the simultaneous rotation, in a clockwise and counter-clockwise direction, of the two half cylinders, fitted with a lock (9),
    - An opening level to actuate the half cylinders (3),
    - A case for the housing of a coin box and the electronic data identifying, measuring and transmitting systems (5).

2. Hood for the consignment of garbage applicable to existing containers, according to claim 1, **characterized in that** being actuated by a frontal opening lever (3) working in a clockwise direction.

3. Hood for the consignment of garbage applicable to existing containers, according to the claims 1 and 2, **characterized in that** the transfer of the motion of the frontal opening lever to the axis of the consigning cylinder (8) set up perpendicularly to the same through a shaft (4) and a bevel gear pair (7).

4. Hood for the consignment of garbage applicable to existing containers, according to the claims 1, 2 and 3, **characterized in that** being capable of being fitted with appropriate reducers on the bevel gear pair (7) for the purpose of reducing the force that the user must exert on the opening lever.

5. Hood for the consignment of garbage applicable to existing containers, according to the claim 1, 2 and 3, **characterized in that** having an opening lever operating on an axis other that of the opening cylinder (8), through a shaft of its own (4) fitted with a bevel gear pair (7) fastened to the supporting structure (1) by supports (6), and a stop (10) for the proper and assured execution of the opening and closing cycle on the part of a user.

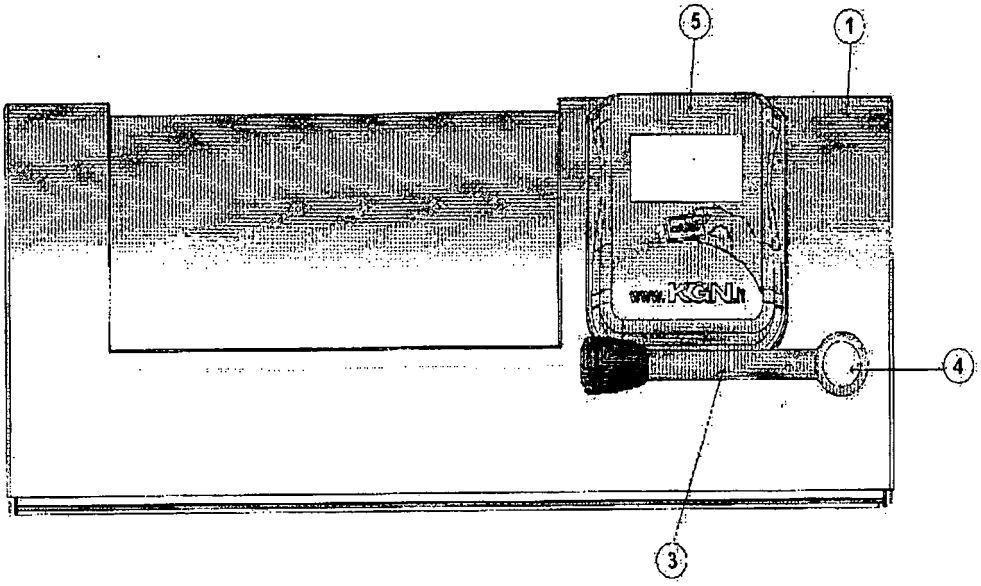

FIG. 1

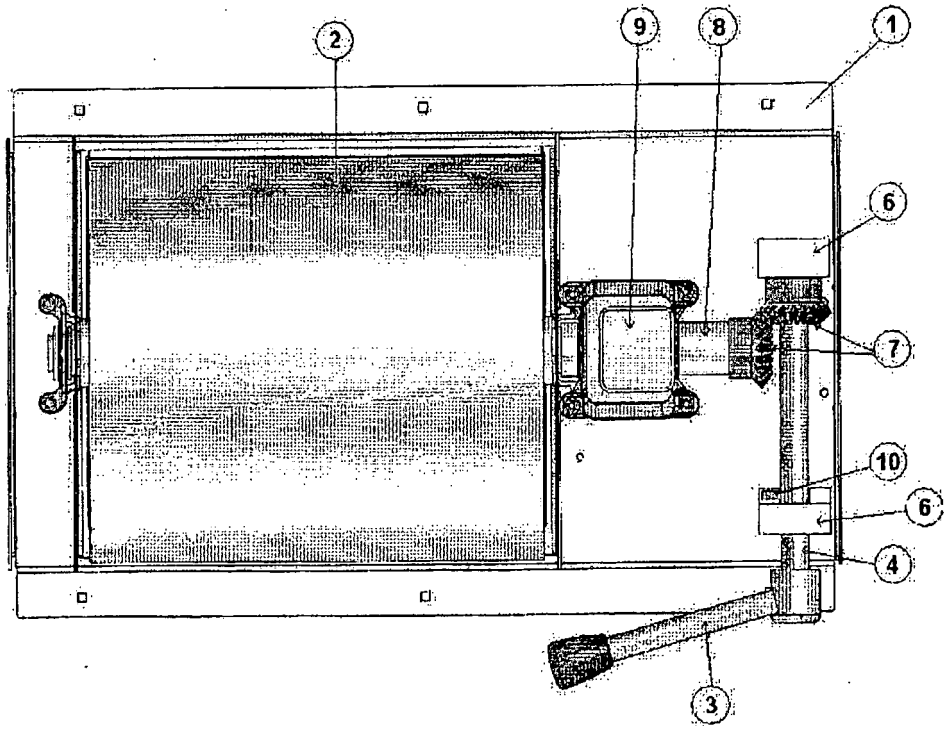

FIG. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 11 00 7160

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	AU 686 587 B2 (MACBAY WASTE LIMITED) 12 February 1998 (1998-02-12)	1,2	INV. B65F1/10
A	* page 9, line 14 - page 10, line 16 * * page 13, line 1 - page 17, line 14 * * figures 1-8 *	3-5	

Y	DE 298 19 219 U1 (S. STEIN) 11 February 1999 (1999-02-11)	1,2	
A	* the whole document *	3-5	

Y	DE 20 2009 005010 U1 (H. BAUER) 10 September 2009 (2009-09-10) * paragraph [0025] - paragraph [0028] * * figures 1-4 *	1,2	

A	DE 195 27 408 C1 (INGENIEURBÜRO PETERS) 12 December 1996 (1996-12-12) * column 3, line 23 - column 4, line 12 * * figures 1,2 *	1-5	

TECHNICAL FIELDS SEARCHED (IPC)

B65F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	8 December 2011	Smolders, Rob

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

1

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 11 00 7160

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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08-12-2011

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