



AFRICAN REGIONAL INDUSTRIAL PROPERTY ORGANIZATION (ARIPO)

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 (54) Title: RUBBISH BIN COVER  
 (57) Abstract

A cover unit for rubbish bins of the type which can be inverted and the litter emptied into a waste removal truck. The cover unit comprises a downwardly depending skirt, including bayonet formations adapted to engage with the pins welded on the sides of the bin, a closure member with an opening leading into the bin. The cover comprises a diametrically extending housing which has side walls. Further, the cover comprises a rectangular drawer which includes wheels on the sides thereof to enable it to move in suitable guides within the housing. The drawer is open at top and bottom thereof, although the top includes a pivoting lid. The drawer is slidable inside the housing between two positions. In the rear position, the pivoting lid can be opened to deposit the litter; then the lid closed and the drawer pushed forward into the housing to a second position to register with the hole on the closure member and empty the litter into the bin. The cover is made in such a manner that the side walls of both the housing and the drawer prevent access to the litter in the bin whatever the position the drawer is at-rear or forward. The cover is removed from the bin by twisting it off the pins, when the litter can then be emptied into a waste removal truck.

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(56) Documents cited: EP 426956 A1 EP 504543 US 4878596  
 US 4290352 US 4158424 US 4697836



RURAL INDUSTRIES INNOVATION CENTREKANYE - BOTSWANATITLE OF INVENTION: ANIMAL PROOF LID/COVER FOR LITTER COLLECTION CONTAINERS; BINS FOR VESSELS.

The Rural Industries Innovation Centre, of Private Bag 11, Kanye, Botswana a subsidiary of the Rural Industries Promotions Company (Botswana) a company limited by guarantee under Botswana laws do hereby declare the invention for which we beg that a patent may be granted to us.

TECHNICAL FIELD TO WHICH THE INVENTION RELATES:-

This invention relates to waste or litter management and protection of the environment and offers many advantages namely that litter/waste materials are inaccessible once deposited into the bin, vessel or container. The invention offers a lid or cover which is improved and interlocks with the bin, vessel or container, thus preventing spillage of litter when the waste container is tipped-over for some reason.

There are many types of litter bin lids/covers. At their simplest lids are detached parts, loosely fitting on open tops of containers or vessels, or bins.

RELEVANT BACKGROUND ART:

Hinged or detached part to cover opening or close aperture at top of bin or vessel or container. Unfortunately, most lids have a disadvantage in one way or the other. The detached lids have disadvantages in that animals (dogs, baboons) and children can easily remove the lids off from the top of bins/vessels. It is also common for the lid to be thrown away when the bin collapses for some reason. The hinged lids have slight advantage over the detached lids in that they usually close automatically over the top of the bin or vessel.

Both kinds of lids have the disadvantage that the litter is accessible, by animals scavenging for food and children playing, as the lid can easily be opened and the litter is always susceptible to spillage and to be scattered around.

It is the intention of the present invention to provide a lid or cover which does not suffer the disadvantages prevalent in the conventional lids.

According to the present invention there is provided a lid/cover comprising: a bottomless drawer with a hinged flap top and the drawer serves as a reception area for litter. The quadrants welded or otherwise mounted on the hinged flap prevent the opening or closing of the bottomless drawer unless fully pulled back. The slides or roller bearings mounted on the sides of the drawer allow it to run smoothly on its rails.

Further the invention provides a casing of regular shape inside which rails are welded or otherwise mounted horizontally on the left and right sides so as to accommodate the bottom-less drawer. The casing is provided with stoppers which limit the backward and



forward movement of the drawer inside the casing. According to further aspects of the invention the top cover of the casing obstructs direct access to the mouth of the litter bin or vessel when placed over it.

The invention further provides a base of a shape which is consistent with the shape of the bin, vessel, or container over which it should fit and interlocked. The invention provides for an aperture on the base which leads to the open top of the bin or container. The base is intended to be a mounting for the casing which is welded or otherwise mounted on it. The casing is placed over the aperture on the base in such a way that the top of the casing aligns over the aperture, and so that the bottomless drawer accurately slides on its rails in the casing to empty into the litter bin via the aperture in the base. The invention provides a bayonet fitting on the base which locks by hooking and turning on the pins provided on the sides of the bin, thus ensuring that animals and children may not easily remove the lid/cover from the bin, but also preventing the lid from being thrown away in the event that the bin or container tips over.

#### DISCLOSURE OF THE INVENTION WITH RESPECT TO DRAWINGS

Fig 1 shows the invention in an exploded view, which gives the impressions of how the main components namely the bottomless drawer (A); the casing (B) and the base (C), relate to one another.

The bottomless drawer (A) has a hinged top flap (3), which due to the quadrants (4) permanently mounted to it, can only open or close when the drawer (A) is only in its fully drawn back position, and the slots on its sides align with the guide pins (7). The slides/bearing (2) on the sides of the bottomless drawer facilitate smooth backward and forward movement on the rails inside the casing (B). The T-bar (6) is used to lift the flap (3) in order to deposit the litter, while the handle (1) helps to push the drawer back and forth.

The casing (B) has rails which are permanently mounted inside horizontally on its sides to help guide the bottomless drawer in its backward and forward movements. The guide pins (7) ensure that the flap (3) on the drawer will not open or close in any other position except when the bottomless drawer is fully drawn back and the pins line up with the slots on the flap (3). The stopper bar (8) on the casing (B) prevents the bottomless drawer from sliding out off the rails of the casing (B) on its backward journey. The top side (8) of the casing will act as a cover over the aperture (Z) in the base (C) in assembly.

The base (C) which fits and locks over the open top/mouth of the litter bin, is also intended to be the mounting for the casing (B) in assembly. The base (C) has an aperture (Z) which leads to the open top of the litter bin, in operation.

Fig 2: shows the invention in an assembled form, given in a three dimensional projection, and showing the bottomless drawer inside the casing which is permanently mounted on the base.

Fig 3: shows the unit in assembly form and now fitted and locked over the litter bin/container (D).



Fig 4: shows the cross-section of the complete assembly fitted and locked over the litter bin/container clearly showing the bottomless drawer (A) in the open position, when litter can be deposited into it. The area marked (X), acts as the false bottom of the drawer (A). In the open position the front side (11) of the drawer (A) obstructs direct practical or visual access to the open top/mouth of the litter bin (D) through the aperture (Z) on the base (C), while the top side (8) of the casing (B) covers over the aperture (Z) permanently. After the litter has been deposited the top flap (3) is closed over the drawer (A) which is then pushed in the direction of the arrow, until it connects with the aperture (Z), thus emptying the litter into the bin/container (D).

Fig 5: is the cross-section of the complete assembly fitted and locked over the open top of the litter bin showing the bottomless drawer (A) in the closed position over the aperture (Z) in the base (C), thus emptying the litter into the litter bin (D). In the closed position the back side (12) of the drawer (A) and the area marked (X) obstruct direct practical and visual access to the litter in the bin/container (D).

WHAT WE CLAIM IS:

1. A lid/cover for bins, containers and vessels characterised by a retractable bottomless drawer, moving on horizontal rails inside a casing which is permanently mounted on the base, which secures to the sides of the bin, container, or vessel by means of an interlocking bayonet fitting.
2. A lid/cover for bins, containers and vessels according to claim 1, which does not permit direct practical and visual access to the litter deposited inside the bin, container or vessel at any one position of the retractable bottomless drawer.
3. A lid/cover for bins, containers and vessels according to claims 1 and 2 whereby the litter reception area and the collection receptacle are not directly connected.
4. A lid/cover for bins, containers and vessels according to claims 1, 2 and 3 whereby the hinged top flap of the bottomless drawer can fully open or close in only one position.
5. A lid/cover for bins, containers and vessels according to claims 1, 2, 3 and 4 above whereby the aperture made, on the base permits litter to be dropped into the bin, container or vessel, with the top side of the casing providing a permanent cover over the aperture, thereby preventing access to the litter inside the bin, container or vessel.



The applicants designates the following countries:

Kenya  
Malawi  
Botswana  
Zambia  
Zimbabwe



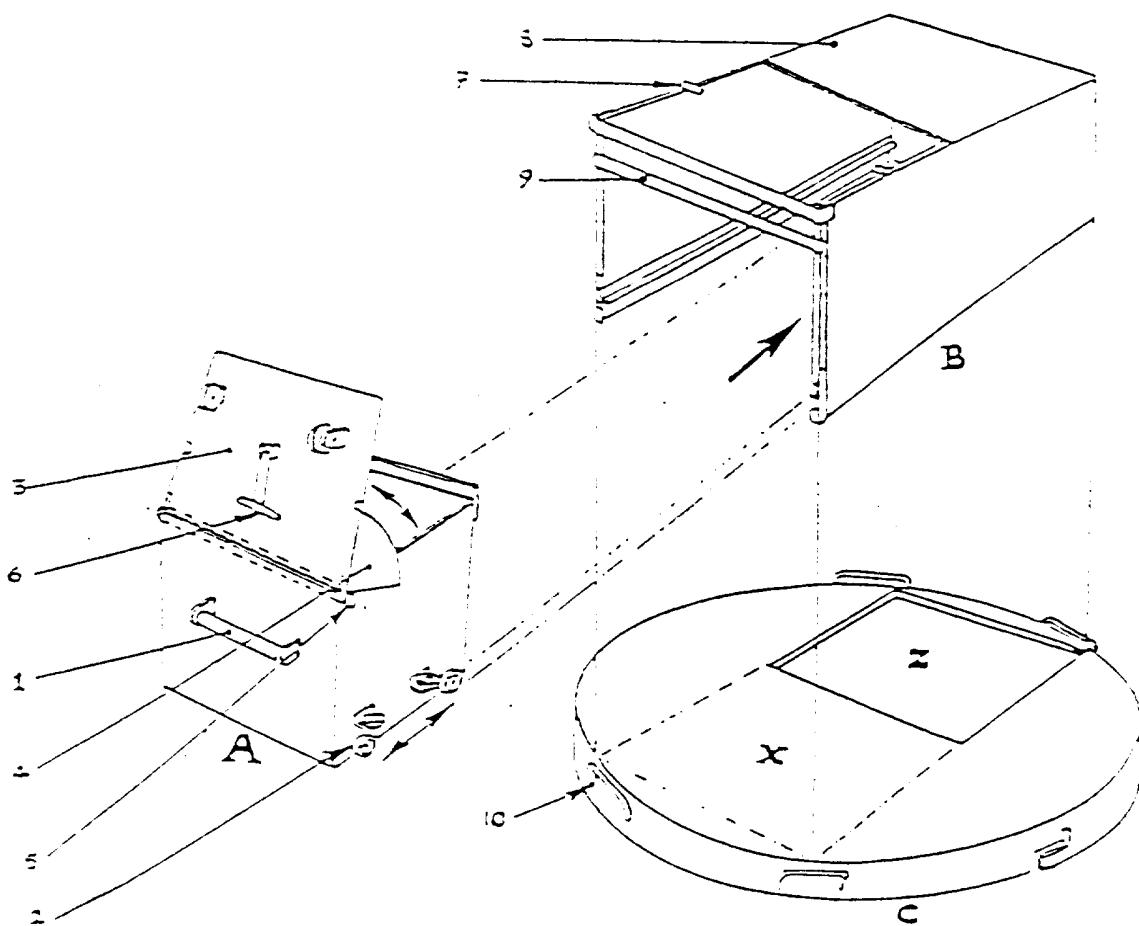


FIG. 1

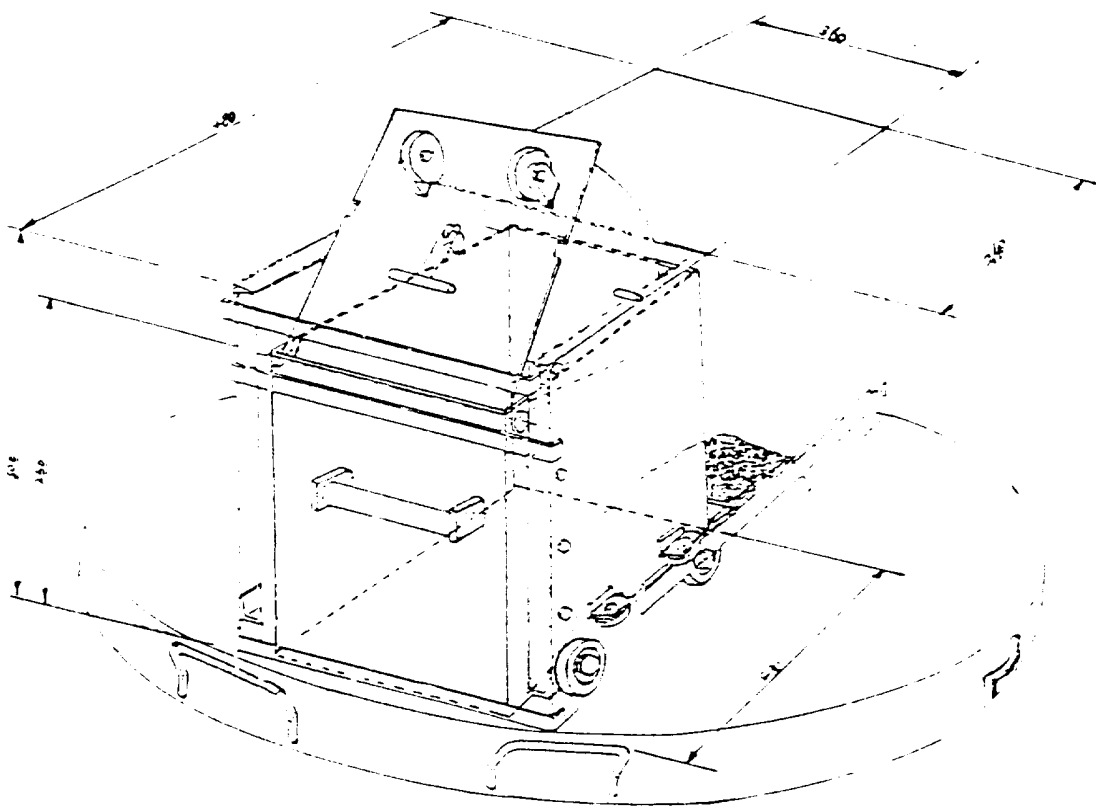


FIG. 2

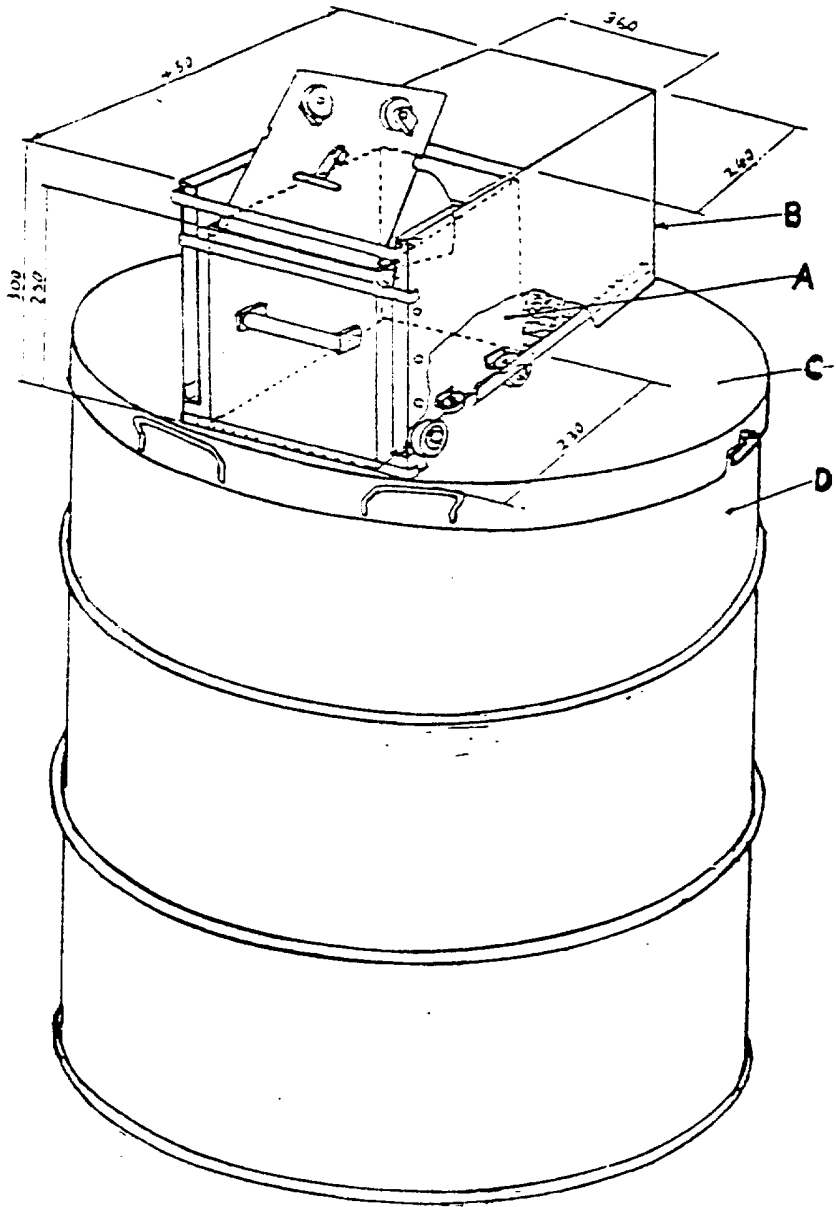


FIG. 3

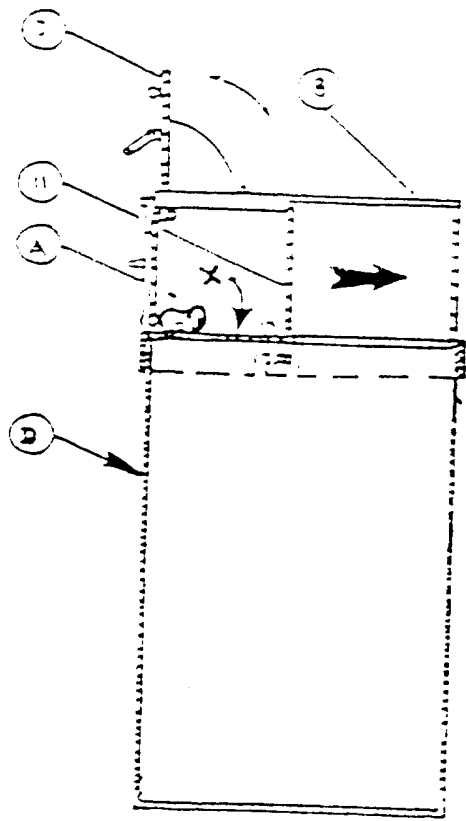


FIG. 4

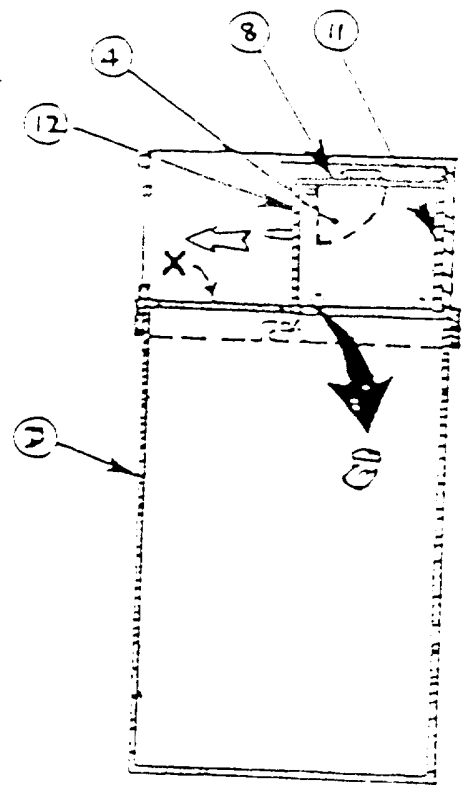


FIG. 5

BAD ORIGINAL

