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(54) **Bag holder**

(57) A bag holder (10) comprising a support (11) constituted by two pairs of legs (12,13) which are mutually hinged in a scissor-like fashion at corresponding central regions, connecting portions (15,16) between two legs (12,13) of a same U-shaped element supporting a frame (17) that defines a mouth, onto which the edge of a trash bag is turned, the frame having a lid (18) to close the mouth defined thereby.

The lid (18) has a door (19) openable by pushing toward the inside of the bag, with elastic means for closing the door (19) automatically.

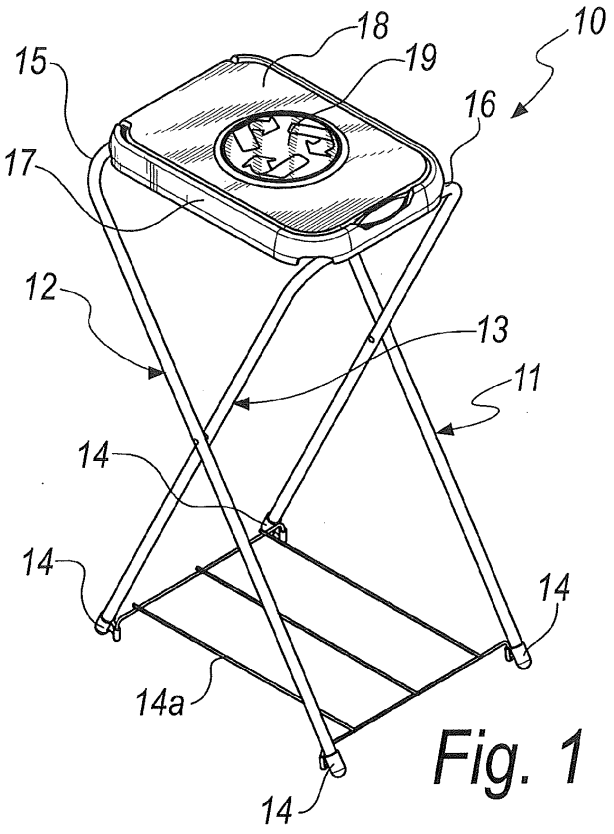

Fig. 1

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Description

[0001] The present invention relates to a bag holder bin.

[0002] Nowadays bag holder bins are known which comprise a support constituted by two pairs of legs, each pair being formed by a U-shaped tubular element, at the ends of which there are supporting elements. Such pairs are mutually hinged in a scissor-like fashion at central regions of the legs, and the connecting portions between two legs of a same U-shaped element support a frame that defines the mouth of the bin structure, onto which the edge of a trash bag is to be turned. A shaped annular element is pivoted on the frame in order to lock the edge of the bag against such frame, the frame being also provided with a lid which is pivoted thereto to close the mouth defined thereby.

[0003] Such bag holders, although they are known, widespread and appreciated, present some room for improvement.

[0004] One important area for improvement lies in the fact that even when placing a single item of refuse to be disposed of in the bag held by the bin, for example a paper cup, a food tin, a drink can, a bottle, and in general an item of refuse which is small in size, it is necessary in any case to manually open the lid, throw the item of refuse into the bag and close the lid by again acting manually on such lid.

[0005] The operation of manually opening and closing the lid is always bothersome, both because of the odours which usually emanate from the bag when the lid is opened, and because often such lid is dirty in its regions which are designed to be manually gripped, and therefore merely touching it is bothersome for a user.

[0006] The aim of the present invention is to devise a bag holder bin that makes it possible to introduce items of refuse which are small in size without lifting the lid.

[0007] Within this aim, an object of the invention is to devise a bag holder bin that can be obtained starting from known bag holder bin structures.

[0008] Another object of the invention is to provide a bag holder bin which is intuitive to use.

[0009] Another object of the invention is to devise a bag holder bin which has encumbrances, both in the folded configuration when not in use, and in the open configuration when in use, which are not greater than those of similar, known bag holder bins.

[0010] Another object of the invention is to provide a bag holder bin that can be implemented using known systems and technologies, and at low cost.

[0011] This aim, as well as these and other objects which will become better evident hereinafter, are achieved by a bag holder bin, of the type comprising a support constituted by two pairs of legs, each pair being formed by a U-shaped tubular element, at the ends of which there are supporting elements, said pairs of legs being mutually hinged in a scissor-like fashion at corresponding central regions, and the connecting portions between two legs of a same U-shaped element supporting a frame that defines the mouth of the bin, onto which the edge of a trash bag is to be turned, said frame having a lid that is pivoted thereto to close the mouth defined thereby, said bag holder bin being characterized in that said lid has a door which is openable by pushing toward the inside of the bag, elastic means for closing said door automatically being associated with said door.

[0012] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a preferred, but not exclusive, embodiment of the bag holder bin according to the invention, illustrated, by way of non-limiting example, in the accompanying drawings, wherein:

Figure 1 is a perspective view of a bag holder bin according to the invention;
Figure 2 is a perspective view of the lid in the open configuration;
Figure 3 is a detail of Figure 2;
Figure 4 is a sectional view of the lid of the bin according to the

invention, with the door in the open configuration.

[0013] With reference to the figures, a bag holder bin is generally indicated with the reference numeral 10.

[0014] The bag holder bin 10 is of the type that comprises a support 11 constituted by two pairs of legs, 12 and 13 respectively, each pair 12 and 13 being formed by a U-shaped tubular element, at the ends of which there are supporting elements 14.

[0015] A grille 14a is fixed to the supporting elements 14 as a support for the bag. The grille 14a prevents the full or half-full bag from being scraped on the ground, an event which for the bag would involve the risk of its being broken open.

[0016] The pairs of legs 12 and 13 are mutually hinged in a scissor-like fashion at corresponding central regions, and connecting portions 15 and 16 between two legs of a same U-shaped element support a frame 17 that defines the mouth of the bin, onto which the edge of a trash bag is to be turned.

[0017] The frame 17 is provided with a lid 18 which is pivoted thereto in order to close the mouth defined by the frame 17.

[0018] The bag holder bin 10 has the distinctive characteristic that the lid 18 has a door 19 openable by pushing toward the inside of the bag to free up an opening 19a for the insertion of items of refuse into the bag with the lid 18 lowered in the closed configuration.

[0019] The door 19 is associated with elastic means for closing the door 19 automatically, i.e. for automatically lifting the door 19 to shut the opening 19a.

[0020] The door 19 is hinged to the lid 18 by means of two coaxial opposite pivots 20, which protrude from a rear tab 21 of the door 19, the pivots 20 being adapted to enter rotatably corresponding holes 22 formed in fins 23 that extend from the inner face of the lid 18.

[0021] The elastic means for the automatic closure of the door 19 are constituted by a helical torsion spring 25 whose end turns surround the pivots 20 of the door 19, and the central part 26 forms a pusher bridge that is adapted to arrange itself below the rear tab 21 of the door 19 in order to produce its upward rotation during the closure of the opening 19a on the lid 18.

[0022] In the embodiment of the invention described herein for the purposes of non-limiting example, an annular element 27 is also pivoted to the frame 17 and is contoured to lock the edge of the bag against the frame 17.

[0023] The frame 17, the lid 18, the door 19 and the annular element 27 can be made of plastics.

[0024] The use of the bag holder bin 10 according to the invention is as follows.

[0025] If an item of refuse is to be placed in the bag held by the bin 10, and is of a size that is less than the diameter of the opening 19a, which is described herein as circular but which can in reality be defined with any perimetrical geometry, all that is needed is to push the item of refuse against the door 19, which rotates downwards, i.e. towards the inside of the bag, until the user lets go of the item of refuse, which falls into the bag and the door 19 which is no longer being pushed by the user is subjected to the elastic thrust of the spring 25 and is brought back to the closed configuration of the opening 19a.

[0026] In practice it has been found that the invention fully achieves the intended aim and objects by devising a bag holder bin that makes it possible to introduce items of refuse which are small in size without lifting the lid.

[0027] Moreover, with the invention a bag holder bin has been devised which can be obtained from known bag holder bin structures, it being sufficient to replace the known lid with a lid with a door according to the invention.

[0028] Moreover, with the invention a bag holder bin has been developed which is intuitive to use.

[0029] Furthermore, with the invention a bag holder bin has been devised which has encumbrances, both in the folded configuration when not in use, and in the open configuration when in use, which are not greater than those of similar, known bag holder bins.

[0030] Furthermore, with the invention a bag holder bin has been devised that can be produced using known systems and technologies, and at low cost.

[0031] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. Moreover, all the details may be substituted by other, technically equivalent elements.

[0032] In practice the materials employed, as well as the dimensions and the contingent shapes, may be any according to requirements and to the state of the art.

[0033] The disclosures in Italian Patent Application No. PD2010A000151 from which this application claims priority are incorporated herein by reference.

[0034] Where technical features mentioned in any claim are followed by reference signs, such reference signs have been inserted for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A bag holder bin (10), of the type comprising a support (11) constituted by two pairs of legs (12, 13), each pair being formed by a U-shaped tubular element, at the ends of which there are supporting elements (14), said pairs of legs being mutually hinged in a scissor-like fashion at corresponding central regions, and the connecting portions (15, 16) between two legs of a same U-shaped element supporting a frame (17) that defines the mouth of the bin, onto which the edge of a trash bag is to be turned, said frame having a lid (18) that is pivoted thereto to close the mouth defined thereby, said bag holder bin being **characterized in that** said lid (18) has a door (19) openable by pushing toward the inside of the bag, elastic means for closing said door (19) automatically being associated with said door.

2. The bin according to claim 1, **characterized in that** said door (19) is hinged to the lid (18) by means of two coaxial opposite pivots (20), which protrude from a rear tab (21) of said door (19), said pivots (20) being adapted to enter rotatably corresponding holes (22) formed in fins (23) that extend from the inner face of the lid (18).

3. The bin according to the preceding claims, **characterized in that** said elastic means for the automatic closure of the door (19) are constituted by a helical torsion spring (25), whose end turns surround the pivots (20) of the door (19), and the central part (26) forms a pusher bridge that is adapted to arrange itself below the rear tab (21) of the door (19) in order to produce its upward rotation during the closure of the opening (19a) on the lid (18).

4. The bin according to the preceding claims, **characterized in that** an annular element (27) is pivoted to said frame (17) and is contoured to lock the edge of the bag against said frame (17).

5. The bin according to the preceding claims, **characterized in that** said frame (17), said lid (18), said door (19) and said annular element (27) can be made of plastics.

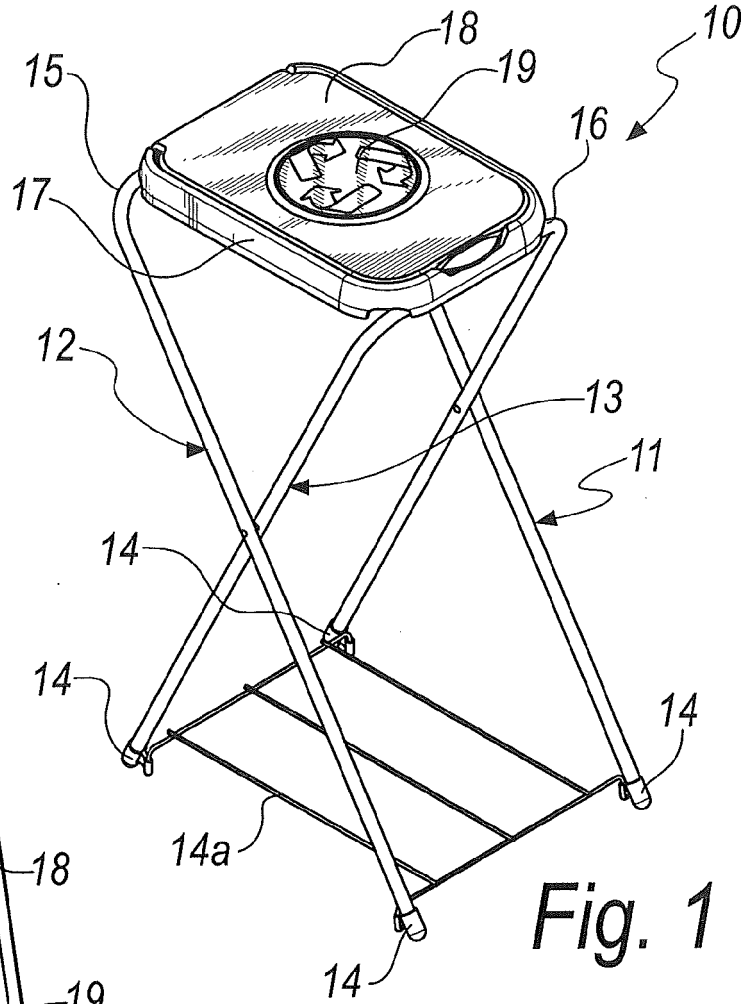

Fig. 1

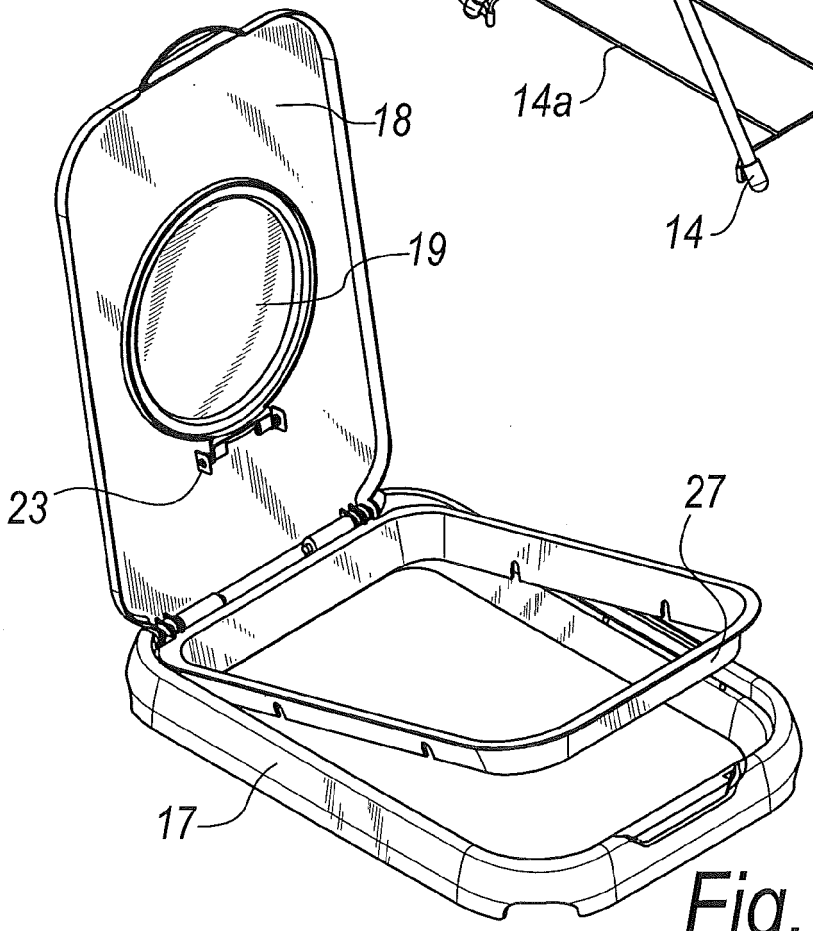

Fig. 2

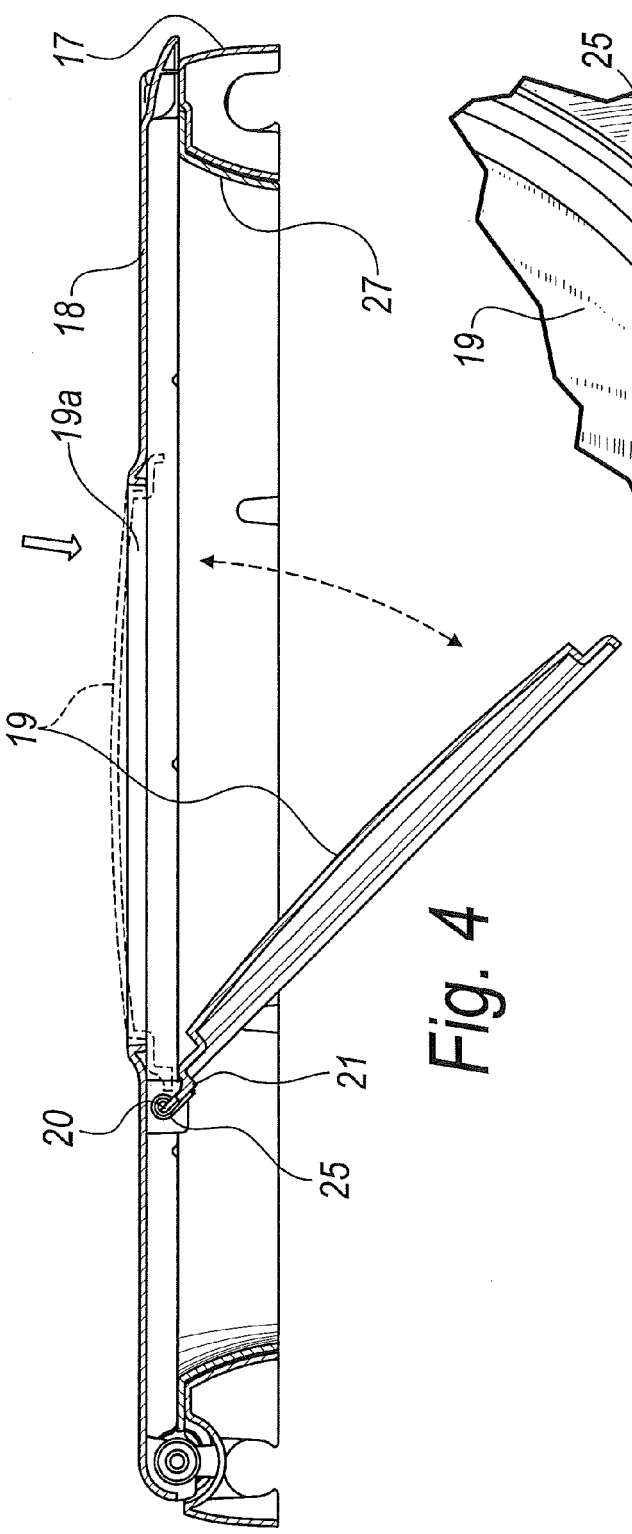

Fig. 4

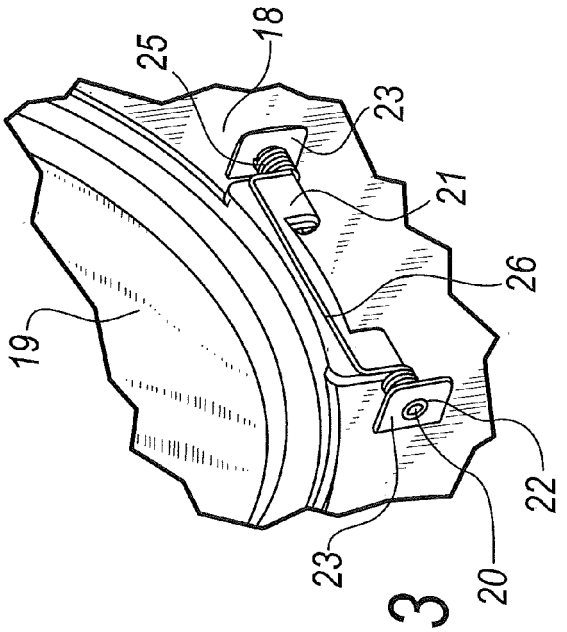

Fig. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 10 19 1389

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	US 2005/077438 A1 (G. MUTERT) 14 April 2005 (2005-04-14) * paragraph [0032]; figure 7 * -----	1-5	INV. B65F1/14 B65F1/16
Y	US 2 800 244 A (J. WITT) 23 July 1957 (1957-07-23) * column 2, line 39 - column 3, line 31 * * figures 1-3 * -----	1-5	
A	EP 1 857 378 A1 (ARTEX S.P.A.) 21 November 2007 (2007-11-21) * abstract; figure 1 * -----	1	
A	JP 62 108205 U ("UNKNOWN") 10 July 1987 (1987-07-10) * figures * -----	1	
A	JP 61 132206 U ("UNKNOWN") 18 August 1986 (1986-08-18) * figures * -----	1	
			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	5 August 2011	Smolders, Rob

CATEGORY OF CITED DOCUMENTS

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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 10 19 1389

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05-08-2011

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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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