



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
18.09.2024 Bulletin 2024/38

(51) International Patent Classification (IPC):
B65D 33/28 (2006.01)

(21) Application number: **23382243.6**

(52) Cooperative Patent Classification (CPC):
B65D 33/28

(22) Date of filing: **15.03.2023**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

(71) Applicant: **Plásticos Industriales y Comerciales de Alfarrasí S.L.**
46893 Alfarrasí (Valencia) (ES)

(72) Inventor: **Rejon Asenjo, Roberto**
46800 Xàtiva (Valencia) (ES)

(74) Representative: **Carlos Hernando, Borja Garrigues IP, S.L.P.**
Hermosilla, 3
28001 Madrid (ES)

(54) **MULTIPURPOSE DIE-CUT BAG**

(57) A multipurpose die-cut bag, referring to a plastic bag, preferably recycled, of the type made up of two rectangular sheets with a die-cut, close to the opening, that serves as a handle, further having a self-closing strap, whereby, in addition to the uses that it can be given as

a reusable bag with handles to transport products, it allows the bag to be closed by tying with the strap into a bow at the opening thereof, for example, to use it as a garbage bag in one last use of the bag.

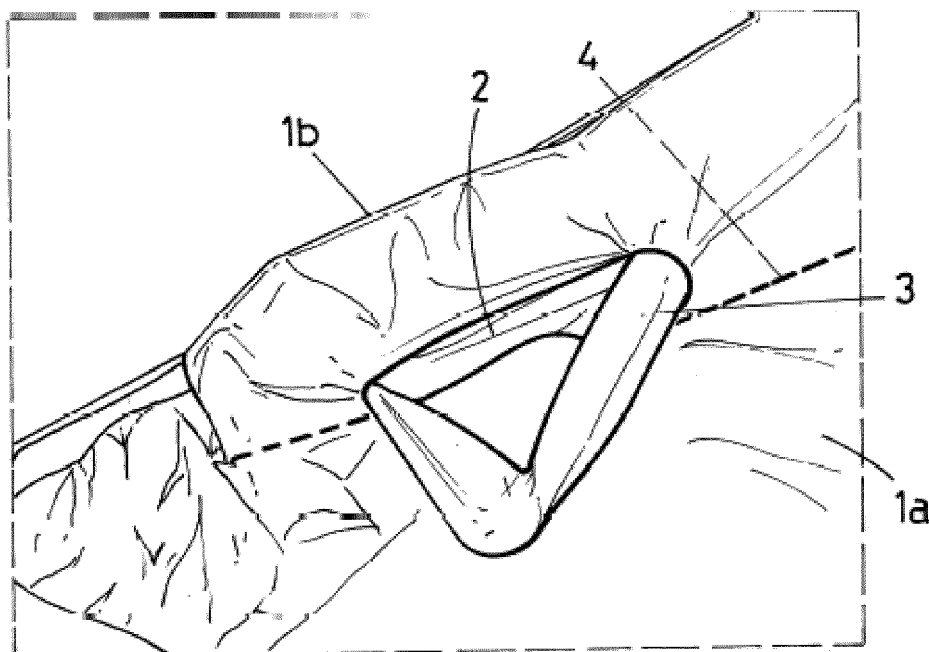


FIG.4

Description

OBJECT OF THE INVENTION

[0001] The invention, multipurpose die-cut bag, relates to a multipurpose die-cut bag, referring to a plastic bag, preferably recycled, of the type made up of two rectangular sheets with a die-cut, close to the opening, that serves as a handle, further having a self-closing strap, whereby, in addition to the uses that it can be given as a reusable bag with handles to transport products, it allows the lacing of the strap to be closed at the opening thereof, for example, to use it as a garbage bag in one last use of the bag.

[0002] The field of application of the present invention falls within the sector of the industry dedicated to the manufacture of bags, particularly plastic bags or bags made of a similar material with a handle to transport products, at the same time covering the field of garbage bags with a self-closing strap.

BACKGROUND OF THE INVENTION

[0003] Plastic bags or bags made of similar materials, whether recycled or biodegradable or not, are known on the market, said bags having a handle defined by an oval-shaped hole die cut in the material close to the opening, known in the sector as die-cut bags. Bags of this type, with a low manufacturing cost due to their simplicity, are currently widely used, especially in the retail and supermarket sectors. However, their use is only intended for the transport of the acquired product and, depending on whether the material withstands it, its subsequent reuse also to transport other products or objects, such as in the case of recycled plastic bags, in that the bag has a high number of reuses, preserving its original characteristics and properties.

[0004] However, it has been observed that many users use bags of this type one last time as garbage bags or to throw away waste, which is usually not a good idea, since it does not have elements to be able to correctly close the bag and, consequently, the garbage or waste that it contains ends up coming out of the bag with the consequent problem in the field of waste collection, for which it is necessary to use specific bags equipped with a self-closing strap that prevents the content from getting out in container unloading operations, avoiding problems of hygiene and antisocial behavior.

[0005] The objective of the present invention is, therefore, the development of an improved plastic bag with a die-cut handle which further allows its use by closing the opening with a self-closing strap. In this way, the bag has a multipurpose use, serving both to transport products from the shop to the home, to reuse it to carry any product or object that fits in it and one last use as a correctly closed garbage bag.

DESCRIPTION OF THE INVENTION

[0006] The object of the present invention is a multipurpose die-cut bag according to claim 1.

[0007] As previously noted, the invention proposes a bag, preferably made of plastic material, and more preferably made of recycled plastic material, of the type comprising two side walls preferably joined together by their two lateral sides and their lower side, while their upper side determines the access opening to the interior of the bag, opposite the lower side that forms the bottom of said bag. The sides of the bag are preferably joined together done by means of welding, in particular heat-welding. Each of the two walls close to said opening have a die-cut hole in the form of a handle to hold the bag by hand. Said die-cut hole has an upper side of the hole closer to the opening, a lower side of the hole closer to the bottom of the bag, and two lateral sides of the hole that join the upper side and the lower side of the die-cut hole. The bag has a strap located between the upper side of the die-cut hole of each side wall and the opening of the bag, the strap being accessible from said upper side of the die-cut hole so that when it is pulled, it closes the bag. The strap is accessible from the outside of the bag, that is, from outside the opening, or from the inside of the bag, that is, from inside the opening.

[0008] The main advantages of having the self-closing strap above the die-cut hole are:

- reinforcing the fastening of the bag above the die-cut hole by including the strap above it;
- concealing the strap while putting the bag to common use; and
- using the bag as a garbage bag, allowing it to be closed.

[0009] To house the strap, the bag preferably comprises at least above the die-cut hole of each side wall, a double wall or cuff that determines a tube connected to the outside through the upper side of the die-cut hole. Thus, inside each of the tubes of each side wall and joined to the lateral sides of the bag, there is a strap that remains concealed inside each tube. Said strap is joined to the welds between the lateral sides of both side walls. As previously mentioned, each strap located above each die-cut is accessible through the upper side of each of the two die-cut holes. To close the bag, each strap is accessed through the die-cut hole and pulled, extracting it through the die-cut hole, bringing the sides where the ends of the straps are fastened closer together, wrinkling the body of the bag closing the opening, to then make a knot or bow between the extracted sections of both straps.

[0010] The double wall of each tube is formed by folding each side wall towards the inside of the opening, the length of the inner fold preferably extending from the opening to a seam line by means of which the inner fold is fixed to the side wall, forming the cuff or tube inside

which the strap is housed.

[0011] Said seam line preferably coincides with the upper side of the die-cut hole, running along the side wall from one lateral side to the other, but it is interrupted when it reaches said upper side. If the seam line is slightly below the upper side, which is not preferable, it will be interrupted when it reaches the die-cut hole. Also, in another alternative, the seam line can be arranged below the lower side of the die-cut hole.

[0012] As mentioned, the inclusion of the strap serves as a reinforcement of the bag in its grip area, since, as the strap is arranged above the die-cut holes on each side wall, that is, between said holes and the opening or upper edges of the side walls, the strap contributes to the handle function of the die-cut holes, which in turn are the opening for access to the self-closing strap.

[0013] The bag can have different configurations, such as, for example, a fold in the lower bottom of the bag that will give it a greater load volume or greater capacity. Likewise, the bag can further incorporate an additional wall between the two side walls.

[0014] The materials for manufacturing the strap or straps is preferably polyethylene, but other materials that allow the same function cannot be ruled out. Also, the material of the bag is preferably recycled plastic, without ruling out other materials suitable for bags, such as other plastics or cardboard.

DESCRIPTION OF THE DRAWINGS

[0015] To complete the description of the present invention and in order to facilitate the understanding of its features, the description includes, as an integral portion thereof, a set of figures of an illustrative and non-limiting nature.

Figure 1 shows a front view of an example of the multipurpose die-cut bag object of the invention, depicted in a flat position and without containing anything inside, where its general external configuration can be seen.

Figure 2 shows an enlarged view of detail A indicated in Figure 1, where the external configuration of the die-cut handle and the heat-welding line of the upper cuff can be seen.

Figure 3 shows an enlarged view of the internal area of the opening of the bag of the invention, where the die-cut of the handle and arrangement of the self-closing strap inserted under the upper cuff, located above said die-cut, can be seen.

Figure 4 shows a perspective view of the external area of the die-cut of the handle, depicted with the self-closing strap in the phase of being extracted through same.

Figure 5 shows a perspective view of the bag when it is used as a garbage bag, with the opening tied with the self-closing strap.

PREFERRED EMBODIMENT OF THE INVENTION

[0016] As can be seen in said figures, the bag (1) of the invention comprises two layers (1a) of sheet material joined together on all sides except the upper side which defines the access opening (1b) to its interior to fill and empty the bag, there being close to said opening (1b) a die-cut hole (2) in each of the two layers (1a) that serves as a handle for transport.

[0017] Preferably, the two layers (1a) of the bag are rectangular in configuration (Figures 1 and 2). And it is distinguished by further comprising a self-closing strap (3) inserted into the internal face of the opening (1b) in such a way that it is accessible from the die-cut holes (2) that serve as handles to pull it and be able to tie the extracted sections thereof together to close the opening (1b), as shown in figure 5.

[0018] For this purpose, the self-closing strap (3) is incorporated in a cuff (1c) of the sheet material provided around the perimeter on the inside face of the opening (1b), having a height (h) that covers the position of both die-cut holes (2), that is, the seam line (4) with which it is fixed to the layers (1a) of material is located below said die-cut holes (2), as observed in Figures 2 and 3, serving as reinforcement of the same when used as handles, the strap (3) being arranged above the position of said die-cut holes (2), that is, between the latter and the upper edge of the opening (1b), so that the die-cut perimeter itself of the die-cut holes (2) that serve as handles constitutes the opening for access to the self-closing strap (3) (Figure 4).

[0019] Thus, the bag (1) has a cuff (1c) on the inner face of the opening (1b) that provides two layers of sheet material in the area of the die-cut holes (2) that serve as handles, which confer greater resistance to same.

[0020] In addition, preferably the two layers (1a) of the bag also have a lower fold (1d) at the bottom of the bag (1) that gives it a greater volumetric capacity.

[0021] The bag (1) can be made of recycled plastic material and the self-closing strap (3), for example, can be made of polyethylene, to impart resistance to same.

[0022] To manufacture the bag (1), the following steps preferably take place, but not necessarily in the order indicated below:

- When forming the fold to make the cuff (1c) on the inner face of the opening (1b), the self-closing strap (3) is inserted, which preferably consists of a strip of film preferably 40 mm in width (a) and the same length as the width of the bag (1) and, by means of a seam line (4) or longitudinal welding, the strap (3) is inserted inside the cuff (1c) of the opening (1b).
- Subsequently, when the bag is already folded, the hole (2) that constitutes the handle that will be used to hold the bag when transporting it with whatever content is die cut and, at the same time, to access the strap (3) when in its last use of life, it can be closed by means of a knot or bow.

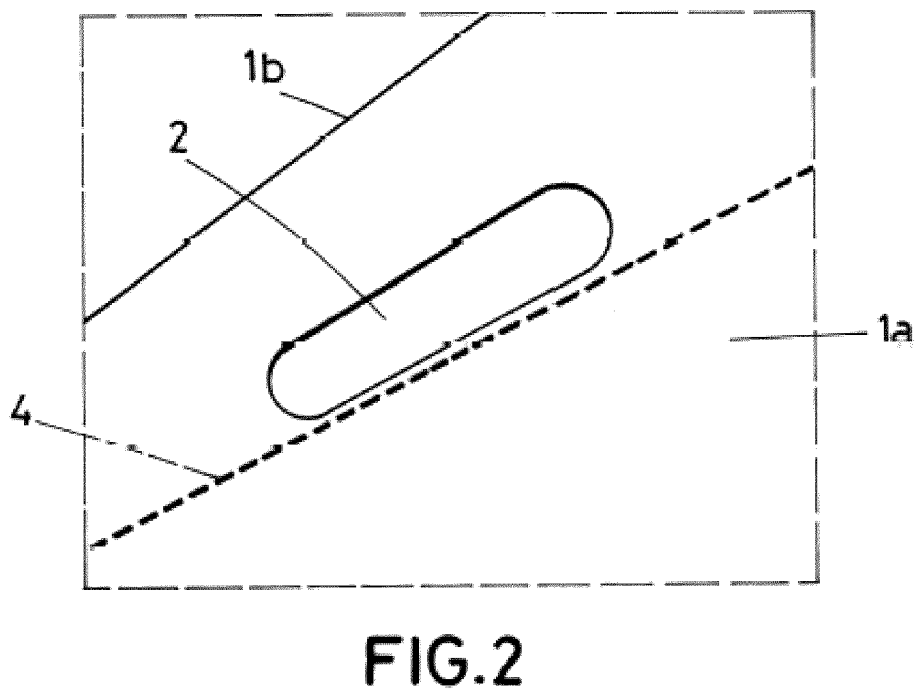
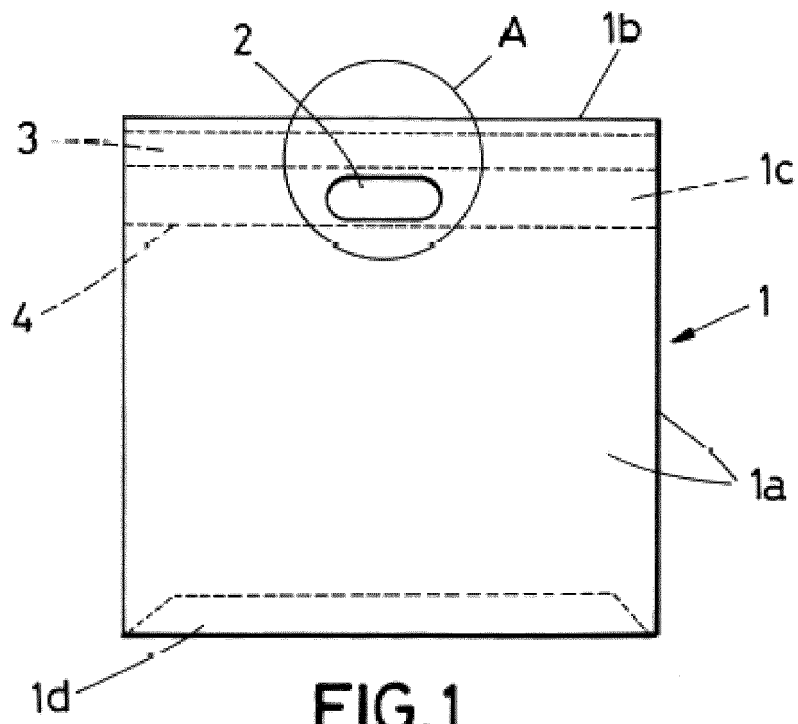
- Finally, the bag (1) is preferably obtained from a roll of sheet material that is preferably folded in the middle, becoming double, which, preferably by means of a transverse weld and a cutting blade, will be separated individually to form each bag, thus obtaining the final product.

Claims

1. A multipurpose die-cut bag, with two side walls (1a) joined together by their two lateral sides and their lower side, while their upper side determines the access opening (1b) to the interior of the bag, opposite the lower side that forms the bottom of said bag, each of the two walls (1a) having close to said opening (1b) a die-cut hole (2), with an upper side of the hole closer to the opening, a lower side of the hole closer to the bottom of the bag, and two lateral sides of the hole that join the upper side and the lower side of the die-cut hole (2), **characterized in that** said bag comprises:
 - at least above the die-cut hole (2) of each side wall (1a), between the upper side of the die-cut hole of each side wall and the mouth of the bag, a double wall or cuff (1c) that determines a tube (1c) connected to the outside through the upper side of the die-cut hole (2), and
 - a strap (3) housed inside the tube (1c), the strap being accessible from said upper side of the die-cut hole (2).
2. The bag according to claim 1, **characterized in that** the strap (3) is joined to the lateral sides of the bag.
3. The bag according to claim 1, **characterized in that** the double wall of each tube (1c) is formed by folding each side wall (1a) towards the inside of the opening (1b).
4. The bag according to claim 3, **characterized in that** the length of the inner fold extends from the opening to a seam line by means of which the inner fold is fixed to the side wall (1c), forming the cuff or tube (1c).
5. The bag according to claim 4, **characterized in that** the seam line coincides with the upper side of the die-cut hole (2) running along the side wall from one side to the other.
6. The bag according to claim 4, **characterized in that** the seam line (4) is arranged below the lower side of the die-cut hole (2).
7. The bag according to any of the preceding claims, **characterized in that** the bottom has a lower fold

(1d).

8. The bag according to any of the preceding claims, **characterized in that** the strap (3) is made of polyethylene.
9. The bag according to any of the preceding claims, **characterized in that** it is made of recycled plastic material.



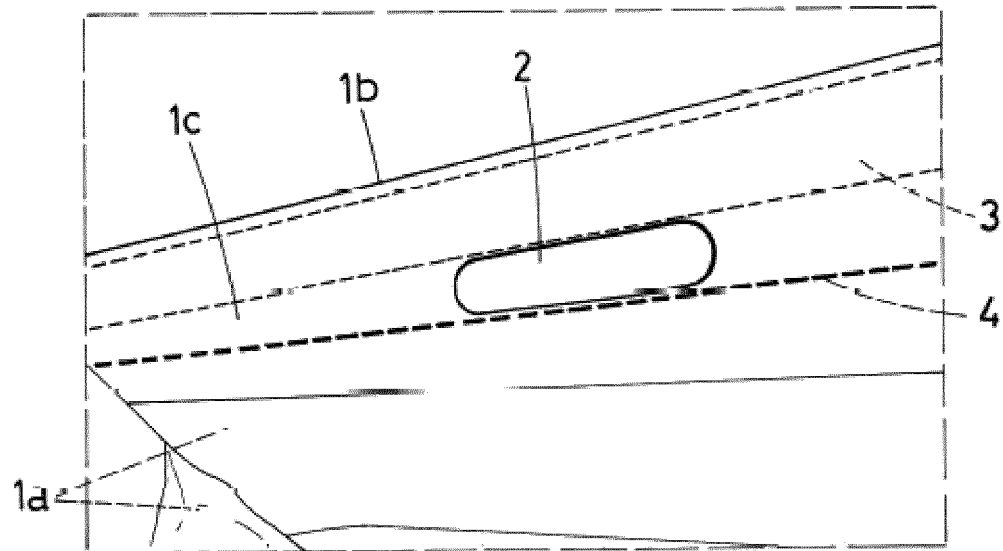


FIG. 3

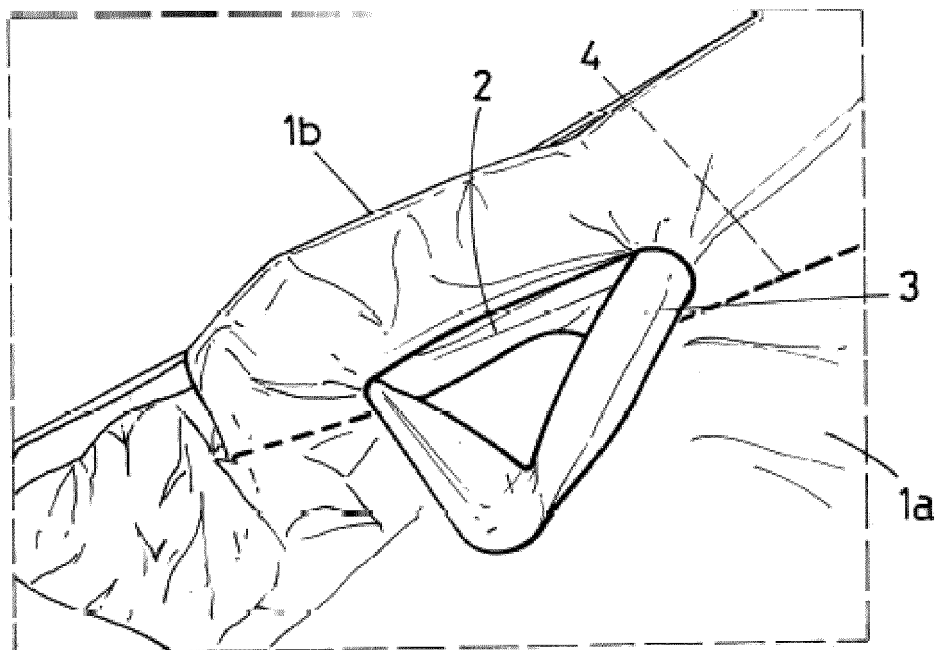


FIG. 4



FIG. 5



EUROPEAN SEARCH REPORT

Application Number

EP 23 38 2243

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	WO 01/51372 A1 (TRAMPE JOHAN PHILIP [DK]) 19 July 2001 (2001-07-19)	1, 3-6, 8, 9	INV. B65D33/28
Y	* figures 1, 2 *	2, 7	
Y	ES 1 067 963 U (BERLIN BARCA MIGUEL [ES]; CRUZ ALMEIDA GUSTAVO JAVIER) 1 August 2008 (2008-08-01) * figures 9, 10 *	7	
Y	FR 2 129 275 A5 (FAYARD & RAVEL) 27 October 1972 (1972-10-27) * figure 2 *	2	
A	DE 22 15 612 A1 (FAYARD ET RAVEL SAINTE SIGOLEN) 11 October 1973 (1973-10-11) * figures 3, 4 *	1-9	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		25 July 2023	Wimmer, Martin
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 23 38 2243

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-07-2023

10

15

20

25

30

35

40

45

50

55

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0151372	A1	19-07-2001	AT	242160 T		15-06-2003
			AU	7405700 A		24-07-2001
			DE	60003241 T2		06-05-2004
			DK	1252073 T3		29-09-2003
			EP	1252073 A1		30-10-2002
			WO	0151372 A1		19-07-2001

ES 1067963	U	01-08-2008	ES	1067963 U		01-08-2008
			WO	2009056661 A1		07-05-2009

FR 2129275	A5	27-10-1972	NONE			

DE 2215612	A1	11-10-1973	NONE			
