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(54) **Bag with handle**

(57) The invention is a plastic container bag (S) with a handle (C) comprising a strip bound on one side (S4) of said bag (S). Said bag (S) is made of at least one film or support material (A), with at least two holes (A1, A3), and comprising a label (B) to close said holes (A1, A3),

applied on the surface (A4) of the film (A) facing the inside of the bag (S), and where said handle (C) is bound to said label (B) from the outside of the bag (S) in at least two areas (C1, C5), in correspondence with said two holes (A1, A3) of said film or support material (A) .

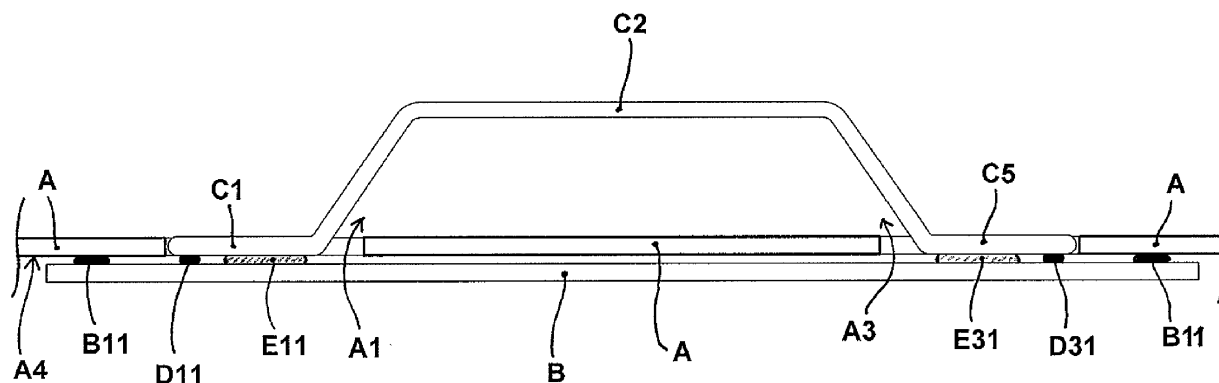


Fig. 1

Description

[0001] This patent relates to plastic container bags and in particular it relates to a new container bag made of plastic material, particularly suitable for foodstuffs for animal use, equipped with a single or double loop handle.

[0002] As known in the prior art there are container bags made from at least one film or a continuous support, for example made of plastic material, which is processed in various stages including folding, cutting and sealing, to obtain a bag with a closed bottom and an opening to fill the bag from above, opposite from the bottom, which, after the filling operation, is closed and sealed.

[0003] As known in the prior art there are container bags containing at least one handle located generally near said opening to fill the bag, that is, on the upper edge of the bag, opposite from the bottom.

[0004] As known there are large bags, such as bags intended to contain foodstuffs for animal use, and where said top handle is therefore at a significant distance from said bottom.

[0005] Therefore, the operations involved in moving the bag are uncomfortable because the user, particularly if short, cannot lift the bag from the ground by just grasping it from said top handle.

[0006] To solve that problem, there are known container bags where the handle is not located on the top edge of the bag but on a vertical surface of said bag usually on one side, in an intermediate position between the bottom and the top edge, so that the user can carry the bag horizontally instead of vertically, thus with less effort and greater manoeuvrability.

[0007] Handles made from a strip of plastic material heat sealed at the ends on the outer surface of the bag and placed preferably in the direction of the height of said bag are known.

[0008] Patent EP 2 035 288 concerns a container bag made of plastic material featuring gusset side walls where handles are made from two openings side by side made on the gusset of one of said side walls. To prevent the material contained in the bag from coming out of said openings, at least one additional label or film is applied inside said bag in correspondence with said openings to close them.

[0009] Other known container bags have the handle comprising a strip bound internally to the bag and accessible from the outside through an opening on said bag substantially having the dimensions of said handle, with said opening sealed from below by a label applied inside said bag.

[0010] Solutions similar to that mentioned above are, for example, described in patent applications WO 2008/145164, EP 0553693, U.S. 2006/0188178.

[0011] In the known bags, said handles are applied on the bag during the continuous production cycle of said bag, where said production cycle foresees the perforation or cutting of the film or support material in the area where the handle is applied, the application of a strip constituting

the handle which is heat sealed at its ends to the film or support surface facing the inside of said bag and the application of a label to close the hole.

[0012] When the bag is made, filled and ready to use, the user must first remove any possible portion of perforated film to access the handle from the outside of the bag, while the sealing label applied to the inside of said bag guarantees the tightness of the seal of said bag.

[0013] Known bags for container have a single handle on a side, placed substantially centrally with respect to the height of said bag.

[0014] Known bags for container also have at least one opening to access its contents, placed along the top of the bag, near a corner, to facilitate the operation of pouring its contents.

[0015] To perform said operation the user must grasp said bag, lift it, tilt it and turn it over to direct the opening down to pour out the contents of the bag. Therefore, the user must use the single side handle to turn the bag over. This operation is very inconvenient especially with very heavy or very large bags given that users can easily place the bag horizontally by grasping the single side handle, but then may not be able to tilt said bag even further without grasping the bag itself.

[0016] In addition, the single side handle is particularly inconvenient especially for large or heavy bags, because when the bag is lifted using the handle, the handle itself is deformed into a U shape leaving little room for the hand, the fingers of which are crushed.

[0017] In addition, since the handle is actually anchored to the bag in two points corresponding to its two ends, the tensile forces generated during the lifting, transport and handling of the bag using said handle are concentrated on said two points, risking the breakage of the handle itself or the film or support material constituting the bag.

[0018] The object of this patent is a new type of plastic container bag, particularly suitable for foodstuffs for animal use, equipped with a single or double loop handle.

[0019] The main objective of this invention is to make the transport and handling of the bag less difficult and uncomfortable.

[0020] Another objective of this invention is to enable the bag to be turned over more easily during the operation of pouring its contents.

[0021] Another objective of this invention is to ensure better distribution of the tensile forces in at least two or preferably three points or areas of the film or support material comprising the bag, making it easier to grasp by the user and also reducing the risk of breakage of said handle or said film or support material comprising the bag.

[0022] These and other objectives, whether direct or complementary, are achieved by the new plastic container bag, particularly suitable for foodstuffs for animal use, equipped with a single or double loop handle.

[0023] The new container bag comprises at least one handle positioned on one side of said bag, preferably in

an intermediate position between the bottom and the top edge of the bag itself, and where said handle comprises at least one strip bound indirectly to said bag in at least two or preferably three points or areas creating one or two loops.

[0024] The film or support material constituting said bag comprises at least two holes, at least one label to close said holes applied and heat sealed on the surface of the film or support material facing the inside of the bag and where said handle is anchored in said two areas, that is, at both ends of said closure label in correspondence with said two holes, leaving the unbound central part of the handle outside the bag.

[0025] In the preferred solution, said film or support material constituting said bag includes at least three holes, with said closure label of said holes applied to the inner surface, and where said handle is bound at both ends and at a midpoint on said closure label, at said three holes, leaving the unbound part of the handle outside the bag.

[0026] Therefore, in practical terms, said handle is bound to said bag at least at its two opposite ends and at a midpoint in order to create two loops preferably symmetrical to said midpoint, so that the user can insert the hand with two fingers in one loop and two fingers in the other loop, distributing the tensile forces during the lifting, transport and handling of the bag.

[0027] This handle is substantially centred with respect to the height of the bag and in particular, said intermediate fixing area is preferably positioned centrally, so that said two loops are displaced compared to said central position and in particular a first lower loop, which is positioned closer to the bottom of the bag, below the midpoint or centre of gravity of the bag, and a second upper loop, which is positioned farther from the bottom of the bag, above the midpoint or centre of gravity of the bag.

[0028] Therefore, the user can grasp both loops with one hand, as described above, and tilt the bag from the vertical to the horizontal position.

[0029] Then, as a result of the two loops displaced with respect to the centre of gravity or the midpoint of the bag's height, the user can further tilt the bag to pour out its contents by lifting the bottom simply acting on the lower loop only.

[0030] The characteristics of the new bag will be better clarified by the following description with reference to the drawings, attached by way of a nonlimiting example.

Figure 1 shows a section of the bag (S) in correspondence to the handle (C) with a single loop (C2). Figures 2 and 3 respectively represent the handle (C) in the embodiment featuring a double-loop (C2, C4) and the closure label (B), where the sealing and/or bonding areas are indicated.

Figure 4 is a diagram with the distribution of the three holes (A1, A2, A3) made in the film or support material (A) constituting the bag (S).

Figure 5 shows a section of the bag (S) in corre-

spondence to the handle (C) featuring a double loop (C2, C4).

Figures 6a and 6b are diagrams representing the use of the new bag (S) with a handle (C) featuring a double loop (C2, C4).

[0031] This is a container bag (S) made with at least one film or support material (A), such as plastic material, which undergoes successive bending, cutting and welding operations to make a reclosable package, as represented in Figures 6a and 6b.

[0032] The bag (S) comprises a closed bottom (S1), at least one opening (S2) on the opposite end of the bag (S), side walls two of which are larger opposite walls (S3) and two of which are side walls (S4), like for example gusset side walls.

[0033] The bag (S) is particularly useful and usable for the container of foodstuff intended, for example, for animal use, preferably in granular form.

[0034] The new container bag (S) comprises at least one handle (C) applied on the outside of said bag (S), on at least one side (S4) in a substantially intermediate position between the bottom (S1) and the upper opening (S2). In detail, said handle (C) includes at least one band, represented in Figure 2, placed substantially parallel to the gusset, that is, in the direction of the bag's height (S).

[0035] As shown in Figure 1, on said film or support material (A) constituting said bag (S) there are at least two holes (A1, A3), that is, at least one hole for each area or anchoring point for the handle (C).

[0036] In correspondence with said holes (A1 A3) at least one label (B) to close said holes (A1, A3) is applied and sealed on the surface (A4) of the film or support material (A) facing the inside the bag (S).

[0037] Said handle (C) is bound to said label (B) from the outside of the bag (S) at the two opposite ends (C1, C5) in correspondence with said two holes (A1, A3) of said film or support material (A), such that the film or support material (A) is actually sandwiched between the label (B) and said handle (C).

[0038] According to a possible preferred embodiment, as shown in Figure 4, on said film or support material (A) constituting said bag (S) there are at least three holes (A1, A2, A3), that is, at least one hole for each anchoring point or area for the handle (C).

[0039] In correspondence with said holes (A1, A2, A3), at least one closure label (B) for said holes (A1, A2, A3) is applied and sealed on the surface (A4) of the film or support material (A) facing the inside of the bag (S).

[0040] As shown in Figure 5, said label (B) is, for example, sealed to said film or support material (A) along the perimeter (B1), shown in Figure 3 with a dotted line, by heat sealing or gluing (B11).

[0041] Said handle (C) is bound to the label (B) from outside the bag (S) in at least three areas (C1, C3, C5), that is, as shown in Figure 5, at the two opposite ends (C1, C5) and in an intermediate area (C3), corresponding to said three holes (A1, A2, A3) made on said film or

support material (A) so that the film or support material (A) is actually sandwiched between the label (B) and said handle (C).

[0042] In particular, said handle (C) is, for example, heat sealed (D11, D21, D31) and/or glued (E 11, E21, E31) in at least three areas.

[0043] In particular, as shown in Figure 2, the embodiment foresees that said handle (C) is heat sealed to the label (B) in correspondence with the areas (D1, D3), for example substantially to C at both ends (C1, C5) and with an additional area (D2) substantially at the centre (C3) of the handle (C). Another embodiment may also foresee as an alternative or preferably in combination with said heat sealing method, that said handle (C) is bound to the label (B) by means of crown treatment and gluing in the areas (E1, E3) at the two opposite ends (C1, C5) and at least to one area (E2) substantially located at the centre (C3) of the handle (C).

[0044] In this way, as shown in figure 5, the handle (C) thus bound to the label (B) creates at least two loops (C2, C4) placed on both sides with respect to said central part (C3) of said handle (C).

[0045] As can be seen in Figures 6a and 6b, said handle (C) is preferably placed on said bag (S) in a substantially central position along the height of the bag (S) or substantially aligned with the centre of gravity of the bag (S), in such a way that said central part (C3) of the handle (C) is substantially aligned with the midpoint of the height of bag (S) or the centre of gravity, while one of said loops (C2), or upper loop, is closer to said upper opening (S2) and the second of said loops (C4) or lower loop is closer to said bottom (S1).

[0046] To carry the bag (S) in a horizontal position, as shown in Figure 1a, the user grasps both of said loops (C2, C4) of the handle (C) with one hand, for example with two fingers in one loop (C2) and two fingers in the other loop (C4), distributing the tensile forces evenly on these three areas of attachment (C1, C3, C5) of the handle (C) to said label (B).

[0047] To further tip the bag (S), as in Figure 1b, tipping said top opening (S2) down to pour out the contents of the bag (S), the user can lift the bottom (S1) of the bag (S) acting on said lower loop (C4), which is offset from the centre of gravity or midpoint of the bag (S).

[0048] Therefore with reference to the preceding description and the attached diagrams the following claims are made.

Claims

1. Container bag (S) with at least one handle (C) comprising at least one strip directly or indirectly bound to said bag (S) and positioned on one side (S4) of the bag (S) **characterized in that** it comprises at least one film or support material (A) constituting said bag (S), on which at least two holes (A1, A3) are made, and at least one closure label (B) for said holes

(A1, A3) is applied to the surface (A4) of the film (A) facing the inside of the bag (S), and where said handle (C) is bound to said label (B) from outside the bag (S) in at least two areas (C1, C5) in correspondence with said two holes (A1, A3) of said film or support material (A) that is substantially sandwiched between said label (B) and said handle (C).

2. Bag (S) according to claim 1, **characterized in that** said handle (C) is bound to said bag (S) in a substantially intermediate position along the height of the bag (S) itself.

3. Bag (S) according to claims 1 and 2, **characterized in that** on said film or support material (A) constituting said bag (S) there are at least three of said holes (A1, A2, A3) with at least one closure label (B) applied to the surface (A4) of the film (A) facing the inside of the bag (S), and where said handle (C) is bound to said label (B) from the outside of the bag (S), corresponding with said at least three areas (C1, C3, C5), corresponding to said three holes (A1, A2, A3) of said film or support material (A), creating at least two loops (C2, C4) for grasping.

4. Bag (S) according to claims 1, 2 and 3, **characterized in that** said handle (C) comprises at least one strip substantially parallel to the direction of the height of the bag (S), said strip being bound to said bag (S) at least at its two opposite ends (C1, C5) and at an intermediate part (C3), and where said central part (C3) of the handle (C) is substantially aligned with the midpoint of the height of the bag (S) or with the centre of gravity, while one of said loops (C2), or upper loop is closer to the upper opening (S2) of the bag (S), and the second of said loops (C4) or lower loop, is closer to the bottom (S1) of the bag (S).

5. Bag (D) according to the previous claims, **characterized in that** said label (B) is bound to said film or support material (A) at least along the outer edge (B1) by means of heat sealing or gluing (B11).

6. Bag (S) according to the previous claims, **characterized in that** said handle (C) is bound to said label (B) in said areas (C1, C3, C5) by means of heat sealing (D 11, D21, D31) and/or crown treatment and gluing (E11, E21, E31).

7. Bag (S) according to the previous claims, **characterized in that** said handle (C) is heat sealed to the label (B) corresponding to the areas (D1, D3) substantially in a C-shape at both opposing ends (C1, C5), and corresponding to a further area (D2) in an I-shape in the substantially central part (C3) of the handle (C).

8. Bag (S) according to claim 6, **characterized in that**

said handle (C) is bound to said label (B) by means of crown treatment and gluing in correspondence with the areas (E1, E3) at the two opposite ends (C1, C5) and in correspondence with at least one area (E2) substantially in the central part (C3) of the handle (C). 5

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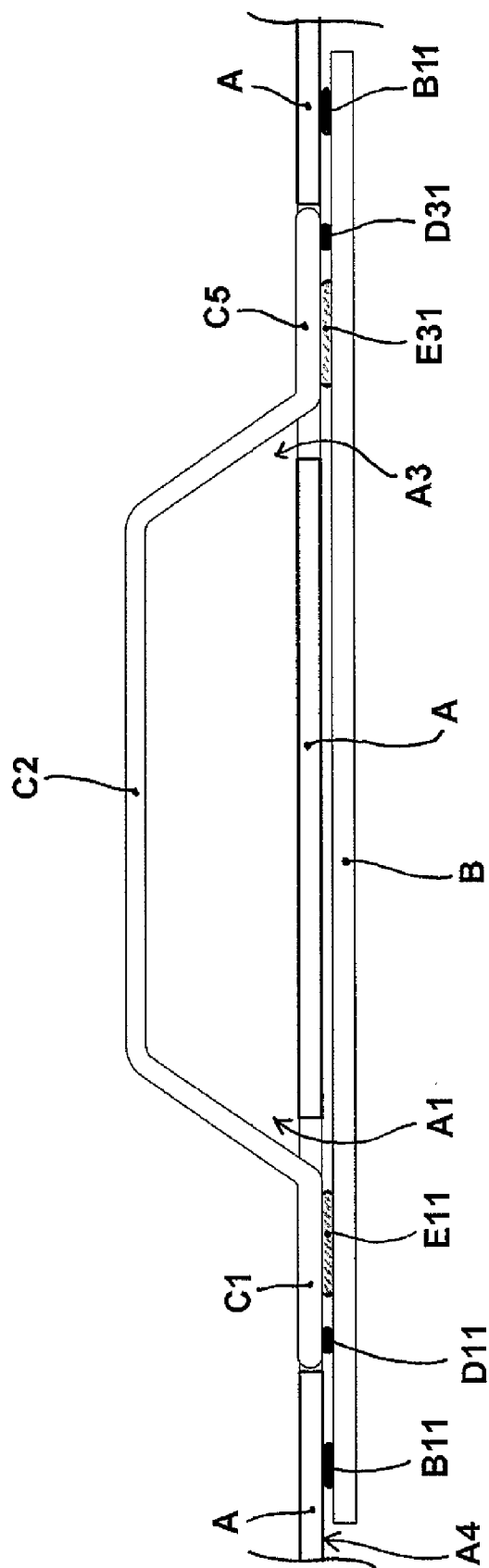


Fig. 1

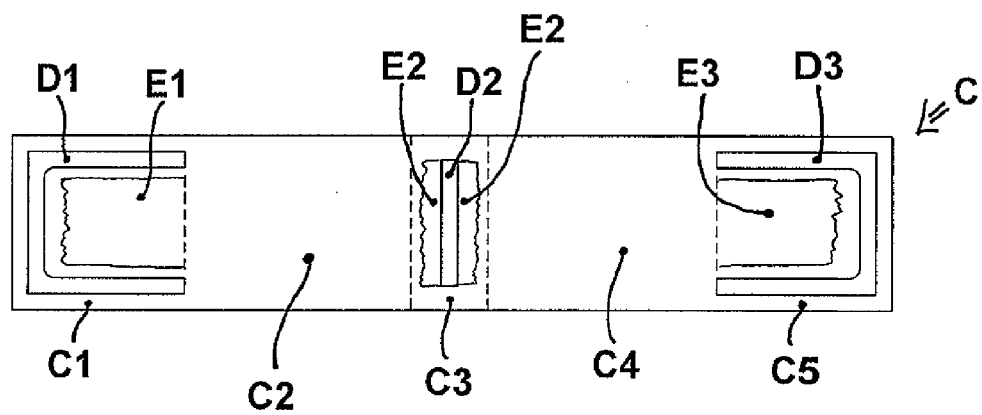


Fig. 2

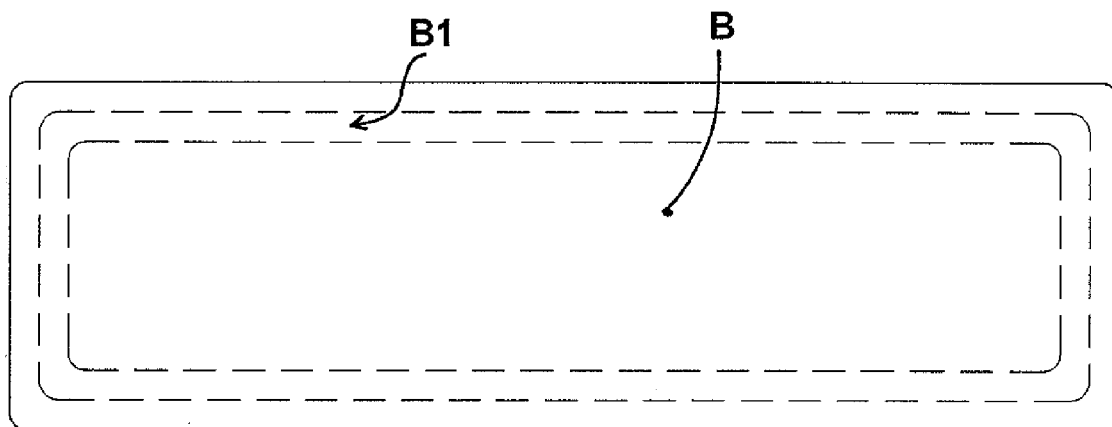


Fig. 3

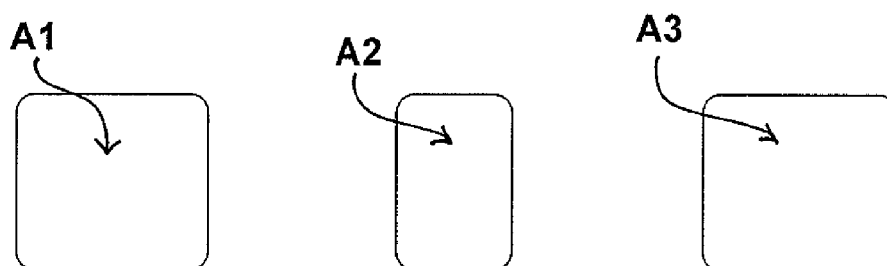


Fig. 4

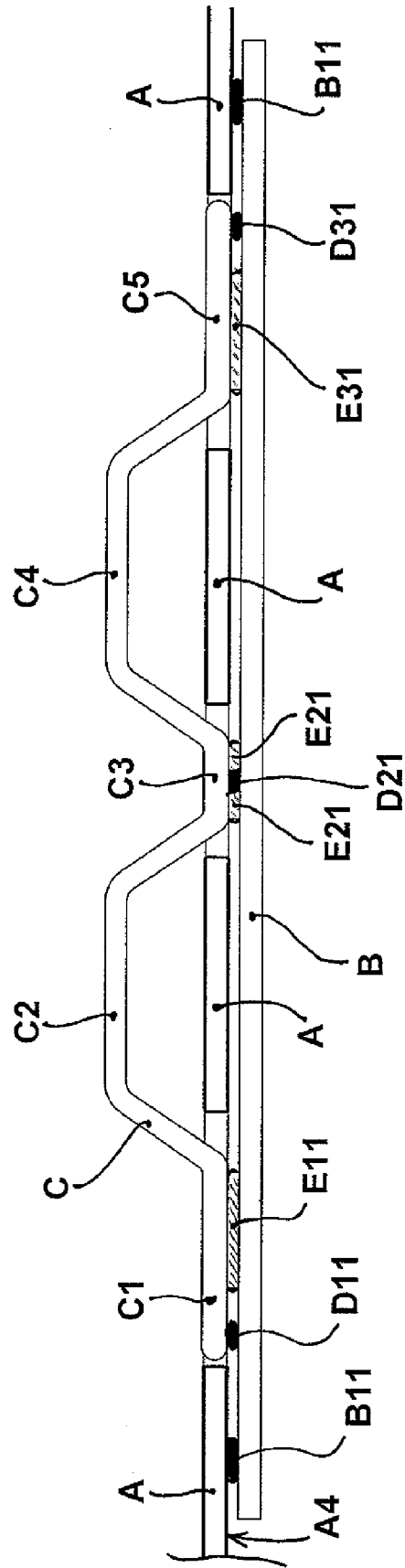


Fig. 5

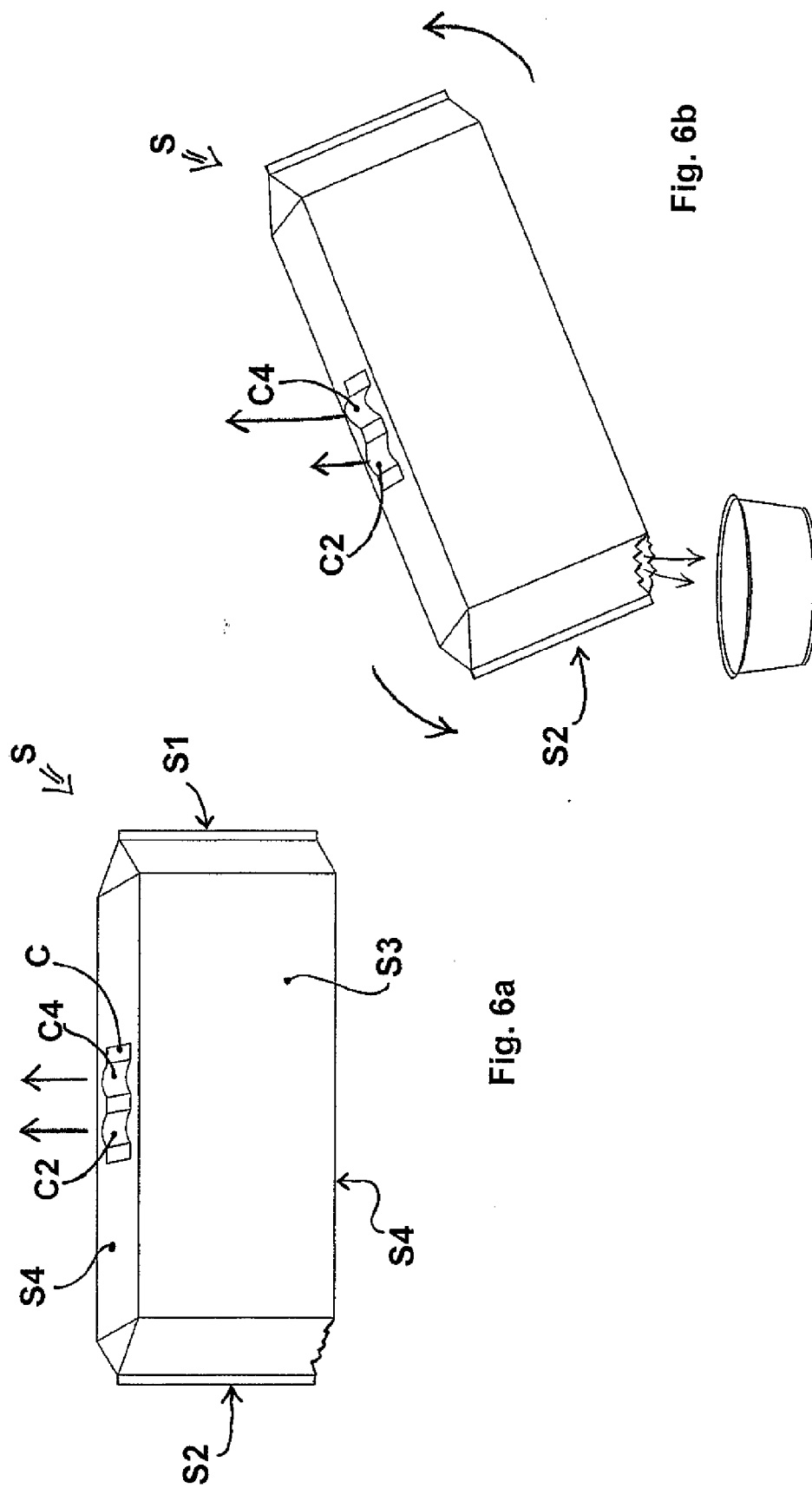


Fig. 6a

Fig. 6b



EUROPEAN SEARCH REPORT

Application Number
EP 10 16 8085

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 21 January 2011	Examiner Fitterer, Johann
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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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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