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(54) **A PAPER BAG**

(57) A paper bag for receiving and containing goods, the bag comprising; a first wall panel (20) having two side edges (21a, 21b), a bottom edge (22) and a top edge (23); and a second wall panel (30) having two side edges (31a, 31b), a bottom edge (32) and a top edge (33). The side edges (21a, 21b) and the bottom edge (22) of the first wall panel (20) are joined to the corresponding side edges (31a, 31b) and bottom edge (32) of the second wall panel (30) leaving an opening between the first and second wall panel. At least one of the wall panels (20, 30) comprises an upper handle portion (24, 34) provided with a handle (25, 35). A first line of weakness (26, 36) extends from one side edge (21a, 31a) to the other (21b, 31b) and is arranged between the handle portion (24, 34) and the bottom edge (22, 32) of said at least one wall panel (20, 30) for tearing of the handle portion. A first glue line (27a, 27b) extends between the side edges (21a, 31a, 21b, 31b) of at least one wall panel (20, 30) and is arranged for first closure of the opening. A second glue line (37) extends between the side edges (31a, 31b) of at least one wall panel (30) and is arranged for second closure of the bag after tearing off the at least one upper handle portion (24, 34).

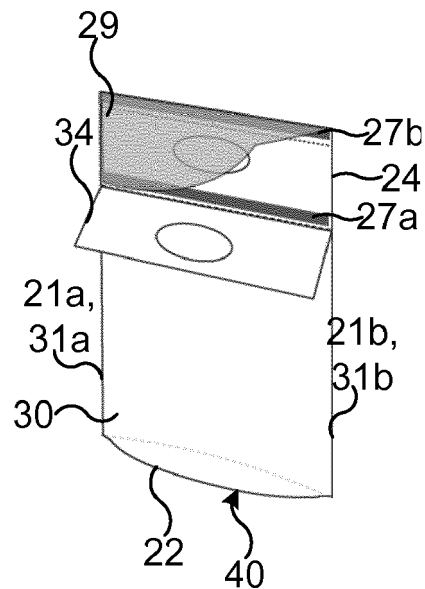


Fig. 2A

Description

Technical Field

[0001] The present disclosure generally relates to paper bags. In particular, a paper bag for receiving and containing goods during shipment of the goods.

Background

[0002] The market for e-commerce packaging is currently dominated by corrugated boxes and polybags. One example of a shipping polybag comprises a closable opening and no handle.

[0003] Carrier solutions for the retail segment are dominated by top loadable carrier bags. A typical retail carrier bag comprises two face panels, side gussets bridging the face panels and a handle on top of each face panel. The face panels and the side gussets are typically made of paper.

[0004] EP3250464B1 discloses a paper bag having first and second seal means with intermediate tear opening means arranged at a first end of the bag. In addition, the bag has a handle at an opposite end of the bag.

[0005] DE19831584A1 discloses a paper bag having a handle arranged at the same end as a single seal means for closing the bag.

Summary

[0006] One object of the present disclosure is to provide a paper bag that is simple and convenient to handle.

[0007] Another object is to provide a bag that is simple and convenient to pick up at, carry from and/or return to a retail store and/or a pick-up point (for click and collect shopping).

[0008] A further object is to provide a bag that is simple and convenient to handle by personnel in a retail store, pick up point, e-tailer, distribution center and/or warehouse.

[0009] A further object is to provide a bag that can be converted or transformed from a shipping bag to a carrier bag and from a carrier bag back to a shipping bag.

[0010] A still further object is to provide a bag that can easily be loaded with goods.

[0011] Another object is to provide a bag which, after shipment of goods and first opening, may be used for other purposes.

[0012] Yet another object is to provide a bag that is environmentally friendly, such as fully recyclable and/or biodegradable.

[0013] A still further object of the present disclosure is to provide a bag that is compact to store.

[0014] A still further object of the present disclosure is to provide a bag that has a large printing area.

[0015] A still further object of the present disclosure is to provide a bag that enables a simple, cheap and/or efficient production.

[0016] A still further object of the present disclosure is to provide a bag that solves several or all of the foregoing objects.

[0017] According to one aspect, there is provided a paper bag for receiving and containing goods. The bag comprises a first wall panel having two longitudinal side edges, a bottom edge and a top edge; and a second wall panel having two longitudinal side edges, a bottom edge and a top edge. The side edges and the bottom edge of the first wall panel are joined to the corresponding side edges and bottom edge of the second wall panel, leaving an opening between the first and second wall panel. At least one of the wall panels comprises an upper handle portion provided with a handle. A first line of weakness extends from one side edge to the other and is arranged between the upper handle portion and the bottom edge of said at least one wall panel for tearing of the handle portion. A first glue line extends between the side edges of at least one wall panel and is arranged for first closure of the bag. A second glue line extends between the side edges of at least one wall panel and is arranged for second closure of the bag after tearing of the upper handle portion.

[0018] The paper bag thus allows for that goods may be loaded through the opening and that the bag thereafter may be closed by means of the first glue line. The bag may thereafter be shipped e.g. to a pick-up store, where the customer may collect the bag and conveniently carry it home by gripping the handle. For retrieving the goods, the first line of weakness is teared, whereby the handle portion is removed from the bag and a new opening is formed in the bag. In cases when the customer wants to return some of or all the goods to the sender, such goods may be loaded through the new opening which thereafter may be closed by means of the second glue line.

[0019] The bag thus provides a very easy and efficient way of handling the bag both for the original sender, any distributor involved in transporting the bag, personnel at the pick-up facility as well as the customer.

[0020] The handle may be formed of a second line of weakness arranged in the upper portion for punching out a through hole handle. This allows for that the handle portion does not exhibit any through openings or tangling parts during the first shipment. This constitutes an important advantage since such openings or tangling parts may hinder efficient handling of the bag during storage and transportation. The customer may then activate the handle at the pick-up location by punching out a handle hole defined by the second line of weakness. The so formed handle facilitates carrying the bag from the pick-up facility. Since the entire handle portion is removed at the first opening, the handle can not hinder handling or transportation during return shipment.

[0021] The first and/or the second glue line(s) may be covered by a respective peel strip. In cases where the first glue line is covered by a peel strip, this peel strip is conveniently removed after first loading of the bag. The first glue line will thus not be exposed such as to cause

premature closing of the bag or otherwise hinder first loading. When the second glue line is covered by a peel strip this peel strip is preferably removed after second loading of the bag for return shipment. The second glue line will thus not be exposed for hindering first loading, unloading or second loading. For facilitating use of the bag, the peel strips may exhibit a particular color, such as a bright color, e.g. red. This will alert the personnel loading and first closing the bag as well as the end customer that the peel strip should be removed for allowing first and second closure. It is also possible that the color of peel strip covering the first glue line differs from the color of the peel strip covering the second glue line. Alternatively or in combination, instructions of how to use the peel strips may be printed on them.

[0022] The bag may comprise at least two first glue lines which are covered by a single peel strip and/or at least two second glue lines, which are covered by a single peel strip. In some cases, it may be desirable to use double or more glue lines for effecting the first and or second closing of the bag. Such multiple glue lines may e.g. increase the strength of the closure. If a single peel strip is used for covering several or all of the first and second glue lines respectively, activation of the respective glue lines facilitated since it then suffices to peel off only one peel strip for enabling closing the bag. This may be particularly beneficial for the personnel engaged in the first closing of the bag since these personnel often loads and closes several hundreds of bags in one day. It is thus preferable that at least the first glue lines are covered by a single glue strip.

[0023] The first and second wall panels may each comprise an upper handle portion provided with a handle and a first line of weakness for tearing off the handle portion. By this means a double panel handle portion will be formed which increases the strength of the handle portion.

[0024] When the first and second panels each comprise a first line of weakness, these first lines of weakness may be aligned. By this means the edges of new opening formed by tearing off the handle portions will run along one and another thereby to form an even opening.

[0025] Alternatively, the lines of weakness of the first and second wall panels may be arranged in parallel but not aligned. By this means, the remaining part of one of the wall panels, will after tearing off the handle portion be longer than the other. Such a relative extension of one of the wall panels may be provided with a second glue line for second closure of the bag. At second closure of the bag this relative extension may be folded over the opposing wall panel, thereby to form a strong fold over seal at the second closure.

[0026] The first and second panels may be formed by a single piece of paper. This allows for that the bag readily may be manufactured in a conventional paper converting machine and it also increases the strength of the bag.

[0027] The bottom edges of the first and second wall panels may be joined by means of a gusset portion. Here-

by a completely sealed bottom of the bag is formed. The gusset bottom also increases the strength of the bag and allows for that the bag may stand by its own. This enhances the possibilities to use the bag for other purposes after the first opening of the bag. If the bag should not be returned to the original sender, it may e.g. be used in the household as a trash bag, or for collecting and disposing compostable waste

[0028] The side edges of the first and second wall panels may be joined by means of glue. This allows for a comparatively strong seal between the first and second wall panels. Preferably a biodegradable or recyclable glue is used, whereby the entire bag may be biodegradable or recyclable for saving the environment.

[0029] The glue for joining the side edges may for example comprise a dispersed starch-based adhesive, with or without PVA

[0030] The first and/or the second glue line(s) may be formed on a respective foldable flap for creating a fold over seal at the first and/or second closure respectively. This allows for a strong first and/or second closure of the bag.

[0031] The bag according to any of claims 1-121, wherein the bag comprises a kraft paper material having a grammage, according to ISO 536:2012, of 50 gsm to 200 gsm, preferably 80 gsm to 140 gsm and more preferably 85 gsm to 120 gsm, where "gsm" means g/m²,

[0032] The first and/or the second glue lines may comprise a pressure sensitive adhesive, such as a cold-melt or hot-melt adhesive.

[0033] The first line of weakness may comprise a perforation and/or a line of reduced paper material and/or a tear string attached to the paper material.

[0034] The bag according to the present disclosure may for example be used to ship and carry clothes, shoes, foodstuffs and household goods. Throughout the present disclosure, the first wall panel and the second wall panel may alternatively be referred to as a first main side and a second main side, respectively.

[0035] The major parts of the bag of the present disclosure are preferably made of a paper material. As an example, the wall panels with handle portions and the gusset bottom section may be made of a paper material. These parts of the bag are preferably formed from a single piece of paper material.

[0036] The paper material of the present disclosure may be coated, e.g. with a pigment coating.

[0037] The gusset bottom may for example comprise a pair of subpanels folded along a gusset fold line. The two subpanels of the gusset may have a generally flattened "V" shape when the bag is in a collapsed state. Thus, in the collapsed state of the bag, the gusset fold line may have an acute angle. In one expanded state of the bag, the gusset fold line may have an obtuse angle such that the gusset section is concave. In a further expanded state of the bag, the gusset fold line may have a more obtuse angle. Alternatively, at least one gusset section of the bag may be flat or substantially flat when the

bag adopts one or more expanded states.

[0038] Since the bag may be substantially flat in a collapsed state, several empty bags may be stored and/or transported in a stack which is space saving. In the collapsed state of the bag, the thickness of the bag may substantially correspond to the sum of the thicknesses of the first wall panel and the second wall panel.

[0039] According to one example, a user (e.g. a worker at a retail store, e-tailer, distribution center and/or warehouse) may pick up a bag according to the present disclosure in a collapsed state, insert his/her hand into the bag through opening and spread his/her fingers within the bag to separate the first wall panel and the second wall panel such that the bag adopts a slightly expanded state. In this expanded state, the bag may be laid down or put standing on a horizontal surface, such as a desk, and the bag can be loaded with goods. This loading procedure is comfortable. In the first closed state, the bag may be shipped or may be handed over to a customer. In case the bag is handed over to a customer, the customer can carry the bag by means of the handle.

[0040] A bag according to the present disclosure may have a longitudinal length, in a direction between the bottom edge and the opposite upper edge, and a width (e.g. in a collapsed state of the bag), in a direction between the longitudinal side edges, and wherein the length of the bag is greater than the width of the bag. Thus, the bottom and upper edges may constitute short sides of the bag and the side edges may constitute long sides of the bag. In this case, the bag may have an appearance similar to a handbag. This type of bag may be used for shipping small garments, like underwear. Moreover, this type of narrow bag also helps centering of the mass in the bag.

[0041] Alternatively, the distance between the side edges may be longer than the distance between the bottom and top edges. Thus, the side edges may then constitute short sides of the bag and the upper and bottom edges may constitute long sides of the bag. In this case, when carrying the bag by means of the carrying handle, the bag is oriented horizontally, i.e. the bag has a vertical extension that is smaller than the horizontal extension.

[0042] The bag according to the present disclosure may be produced transversely to the web feeding direction of the converting machine. That is, the side edges of the bag may be arranged perpendicular to the feed direction. In this case, the first tear line and the first and second glue lines may be arranged in parallel with the feed direction. The bag according to the present disclosure may be produced at high machine speeds.

Brief Description of the Drawings

[0043] Further details, advantages and aspects of the present disclosure will become apparent from the following embodiments taken in conjunction with the drawings, wherein:

Fig. 1a is a plan view of a paper blank for forming a bag according to a first embodiment.

Fig. 2a and 2b are perspective views from one side illustrating the bag formed from the blank shown in fig. 1a in an open non-closed state. Fig. 2c is a perspective view corresponding to fig. 2b, illustrating the bag after a first closure. Fig. 2d is a perspective view corresponding to fig. 2c but seen from the opposite side. Fig. 2e is a perspective view illustrating the bag after opening. Fig. 2f is a perspective view illustrating the bag after a second closure.

Fig. 3a is a plan view of a paper blank for forming a bag according to a second embodiment.

Fig. 4a is a perspective view from one side illustrating the bag formed from the blank shown in fig. 3a in an open, non-closed state. Fig. 4b is a perspective view corresponding to fig. 4a, illustrating the bag after a first closure. Fig. 4c is a perspective view corresponding to fig. 4b but seen from the opposite side. Fig. 4d is a perspective view illustrating the bag after opening. Fig. 4e is a perspective view illustrating the bag after a second closure.

Fig. 5a is a plan view of a paper blank for forming a bag according to a third embodiment.

Fig. 6a is a perspective view from one side illustrating the bag formed from the blank shown in fig. 5a in an open non-closed state. Fig. 6b is a perspective view corresponding to fig. 6a, illustrating the bag after a first closure. Fig. 6c is a perspective view corresponding to fig. 6b but seen from the opposite side. Fig. 6d is a perspective view illustrating the bag during opening. Fig. 6e is a perspective view illustrating the bag after opening. Fig. 6f is a perspective view illustrating the bag after a second closure.

Detailed Description

[0044] In the following, a paper bag according to the invention for receiving and containing goods will be described. The same reference numerals will be used to denote the same or similar structural features.

[0045] Fig. 1a illustrates a paper blank 1 for forming a paper bag according to a first embodiment. The paper blank 1 is formed of a single piece of a paper material. The blank 1 comprises a first wall panel portion 20 and a second wall panel portion 30. Each first 20 and second 30 wall panel portions exhibits respective side edges 21a, 21b, 31a, 31b, a respective bottom edge 22, 32 and a respective top edge 23, 33. The bottom edges 22, 32 constitute respective fold lines which are joined by means of a gusset bottom portion 40 which comprises a gusset fold line 41 arranged centrally between the bottom edges 22, 32.

[0046] The first wall panel portion 20 comprises a first handle portion 24 which is arranged distal to the bottom edge 22 and the second wall panel portion comprises a second handle portion 34, which is arranged distal to the bottom edge 32. The first handle portion 24 is connected to the remainder of the first wall panel portion 24 by means of a first line of weakness 26 which extends from one side edge 21a to the other side edge 21b. Correspondingly the second handle portion 34 is connected to the remainder of the second wall panel portion 30 by means of a first line of weakness 36. In the shown example the first lines of weakness are formed as perforations through the paper material. At a not shown alternative, the first lines of weakness may comprise a line of reduced paper material thickness, a tear string, i.e. a piece of string or tape attached to the paper for tearing the paper along the string or tape or similar tear open means. It is also possible that the first line of weakness comprises a combination of a perforation and/or a line of reduced material thickness with a tear string. Such combinations may be preferable when the paper forming the bag has a high strength and/or stretchability.

[0047] In the shown example the first 24 and second 34 handle portions each exhibit a cut-out handle 25, 35. The cut-out handles are arranged such that they are aligned when the first 20 and second 30 wall panel portions have been folded one onto the other for forming the bag. In an alternative, not shown, variant the handle portions 24, 34 may comprise a single or several lines of weakness for punching out a respective handle by breaking the lines of weakness. The lines of weakness may be formed by perforations, by lines of reduced material thickness or by other means.

[0048] The first handle portion 24 further exhibits two first glue lines 27a, 27b. Both first glue lines extend in parallel with the first line of weakness 26 and the top edge 23 of the first wall panel portion 20. One first glue line 27a is arranged in proximity to the first line of weakness 26 and the other first glue line 27b is arranged at a foldable first closure flap 28 which is formed in proximity to the top edge 23 of the first wall panel portion and which is connected to the remainder of the first handle portion 24 by means of a fold line 28a. The fold line 28a is arranged at a distance from the first wall panel portions' first line of weakness 26, which corresponds to the distance between the second wall panel portions' 30 first line of weakness 36 and top edge 33. The first glue lines 27a, 27b may be covered by respective peel strip (not shown). In this embodiment however both first glue lines 27a, 27b are covered by a single peel strip 29.

[0049] The second wall panel portion 30 further exhibits a second glue line 37 which extends in parallel with the top edge 33, from one side edge 31a to the other side edge 31b. The second glue line 37 is arranged adjacent the first line of weakness 36 on that side of the first line of weakness 36 which is distal to the second handle portion 34. The second glue line 37 is covered by a peel strip (not shown) for preventing the second glue line 37 to

adhere to any part of the bag or any other item before it has been activated for second closure by peeling off the peel strip.

[0050] The first 27a, 27b and second 37 glue lines comprise a pressure sensitive adhesive which may comprise e.g. a hot-melt or cold-melt adhesive.

[0051] At the shown example, the second handle portions' 34 first line of weakness 36 is arranged at a distance from the gusset fold line 41 which is somewhat greater than the distance between the first handle portions 24 first line of weakness 26 and the gusset fold line 41. These distances differ essentially by the width of the second glue line 37. By this means the first line of weakness 26 of the first wall panel portion 20 will not be aligned with the first line of weakness 36 of the second wall panel portion 30, as will be explained more in detail below.

[0052] The gusset portion 40, the first wall panel portion 20 and the second wall panel portion 30 are provided with glue strips 51a, 51b which extend along respective side edges 21a, 21b, 31a, 31b from the first line of weakness 26 of the first wall panel portion 20 to the first line of weakness 36 of the second wall panel portion. The glue strips 51a, 51b comprises a water-dispersed starched-base adhesive. When one wall panel portion is folded onto the other wall panel portion for forming the bag, respective portions of the glue strips 51a, 51b will contact one and the other to thereby connect the first wall panel portion 20 to the second wall panel portion 30 along the side edges 21a, 21b, 31a, 31b, from the gusset fold 41 to the first line of weakness of the second wall panel portion 30. At an alternative not shown embodiment glue strips are arranged along the side edges from the gusset fold 41 only in one direction to the first line of weakness of the first wall panel or the second wall panel. In such cases the first and second wall panels are connected by means of a glue strip applied to one of the wall panel portions and making contact with the paper along the side edges of the other wall panel portion.

[0053] Fig. 2a and 2b shows the bag after it has been formed from the blank shown in fig. 1a, in a paper converting machine. In both figures the bag is shown before a first closure of the bag. In fig. 2a the second handle portion 34 has been folded down for showing the inside of the first handle portion 24. The bag comprises a first wall panel 20 (see fig. 2d) and a second wall panel 30 which are connected along respective side edges 21a, 31a, 21b, 31b. The wall panels 20, 30 comprises respective bottom edges 22, 32 which are mutually connected by means of a bottom gusset portion 40. Both first glue lines 27a, 27b are covered by the single peel strip 29.

[0054] When loading the bag with goods, the first 24 and second 34 handle portions may be erected as shown in fig. 2b or folded outwards or downwards along the respective first line of weakness 26, 36, as the second handle portion shown in fig. 2a. Access into the bag is achieved by separating the two wall panels 20, 30 from each other, at least at an upper portion of the wall panels. Thereby, the opening defined by the first 20 and second

30 wall panels at the region in proximity to the first lines of weakness is widened such as to allow insertion of good through the opening into the bag.

[0055] Thereafter the peel strip 29 is removed for simultaneously activating both the first glue lines 27a, 27b. Both handle portions 24, 34 are then folded upwards and pressed together whereby the lower first glue line 27a will contact the second handle portion and permanently close and seal the opening. Thereafter, the foldable first closure flap 28 may be folded and pressed onto the outside of the second handle portion 34 whereby the upper edges of the first 20 and second 30 wall panels are permanently connected by a fold seal to form a single handle portion of the bag. At an alternative not shown embodiment the upper extended first closure flap 28 may be omitted such that the upper edges of the first and second wall panels are aligned. The upper first glue line may then be arranged just below the upper edge of the first wall panel such that a fin seal is formed when the handle portions are pressed together.

[0056] The so closed bag is shown in figs. 2c and 2d which show the bag from opposite sides. In fig. 2c the first glue line 27a and the first line of weakness 26 of the first wall panel are illustrated as seen through the second wall panel 30. In fig. 2d the first glue line 27a and the first line of weakness 36 of second wall panel 30 are illustrated as seen through the first wall panel 20.

[0057] When closed in this manner the bag may be shipped, e.g. to a pick-up facility where it may be collected by a customer. The customer may then conveniently grip the overlapping cut-out handles 25, 35 for carrying the bag from the pick-up facility. In cases when the handles are instead defined by perforations or other lines of weakness, the customer may activate the handle by punching out the areas of the first and second handle portions defined by the second lines of weakness.

[0058] For opening the bag, the first lines of weakness 26, 36 of the first 20 and second 30 wall panels are broken by tearing of the handle portions 24, 34 from the remainder of the bag. Since the first 24 and second 34 handle portions are permanently connected by means of the first glue lines 27a, 27b, this is readily done by gripping the joined handle portion and tearing, whereby both first lines of weakness 26, 36 are simultaneously broken.

[0059] A new opening 60 is then formed between the so formed new upper edges which are created by the torn first lines of weakness 26, 36 and the contents of the bag may be unloaded through the new opening 60.

[0060] If the customer now wants to return some of the contents to the original sender or use the bag for shipping any item to any other receiver, the same bag may conveniently be used for such second shipment. After loading the goods to be shipped through the new opening 60 the bag may readily be closed and sealed by first peeling off the peel strip (not shown) covering the second glue line 37. At the shown example and as described above, the first line of weakness 36 of the second wall panel 30 is not aligned with the first line of weakness of the first

wall panel 20. Instead the second wall panel's first line of weakness 36 is arranged at greater distance from the bottom edge of the bag than the first line of weakness 26 of the first wall panel 20. Hereby, a foldable second closure flap 37a is formed when tearing the first lines of weakness 26, 36. Further, the second glue line 37 is arranged at this foldable second closure flap 37a.

[0061] The bag may thus be readily closed a second time by folding the second closure flap 37a around the new upper edge 26 of the first wall panel 20 and press it against the outside of the first wall panel 20. By this means the new opening 60 has been permanently closed by a fold seal and the bag may be used for a further shipment. The bag reclosed in such a manner is illustrated in fig. 2f.

[0062] At an alternative where the first lines of weakness are aligned and the second glue line is arranged adjacent the first line of weakness of either the first or the second wall panel, the second glue line may be pressed against the inside of the other wall panel. Thereby the new opening is closed and sealed by a fin seal which also allows the bag to be shipped a second time.

[0063] In cases when the customer does not want to use the bag for return or any other further shipment it has proven that the bag may be used for many other purposes. For example, the gusset bottom provides a completely sealed bottom which also allows the bag to stand alone. This makes the bag suitable to use e.g. as a trash bag or for collecting and disposing compostable waste in the household.

[0064] Figs. 3 - 4e illustrates a bag according to a second embodiment. A blank 101 for forming this bag is illustrated in fig 3a. The blank comprises a first 120 and a second 130 wall panel portion joined by a gusset portion 140 connecting the bottom edges 122, 132 of the first and second wall panel portions. The first wall panel portion 120 comprises a first handle portion 124 which is connected to the remainder of the first wall portion 120 by a first line of weakness 126 which extends from a first side edge 121a to a second side edge 121b. The first handle portion 124 exhibits a second line of weakness 125, formed of a perforation and defining a punch-out handle.

[0065] The second wall panel portion 130 comprises a second handle portion 134 which is connected to the remainder of the second wall panel portion 130 by a first line of weakness 136 which extends from a first side edge 131a to a second side edge 131b. The first handle portion 134 exhibits a second line of weakness 135, formed of a perforation and defining a punch-out handle. The two second lines of weakness 125, 135 are arranged to be aligned when one wall panel portion is folded onto the other wall panel portion for forming the bag.

[0066] The first handle portion 124 further comprises a first closure flap 128 which is foldable about a first closure fold line 128a and provided with a first glue line 127 covered by a peel strip (not shown).

[0067] The first line of weakness 136 of the second

wall panel portion is arranged at a greater distance from a central fold line 141 of the gusset portion 140 than the first line of weakness 126 of the first wall panel portion 120. A second glue line 137 is arranged adjacent the second wall panel's first line of weakness 136 at the side which is proximal to the bottom edge 123.

[0068] The side edges 121a, 121b, 131a, 131b of the first 120 and second 130 wall panel portions and of the gusset portion 140 are provided with glue strips 151a, 151b which extend from a top edge 133 of the second wall panel portion 130 to the first closure fold line 128a. When the first 120 and second 130 wall panel portions are folded together, the side edges 121a, 121b, 131a, 131b are thus mutually connected along the entire length of the wall panel portions 120, 130 including the first 124 and second 134 handle portions but excluding the protruding first closure flap 128.

[0069] The bag so formed is shown in figs 4a-e. At first loading of the bag, separation of the upper portions of the first 124 and second 134 handle portions widens an opening at this region. The goods to be loaded may be introduced through this opening. Thereafter the bag may be closed by removing the peel strip (not shown) covering the first glue line 127. Then the first closure flap 128 is folded around the upper edge 133 of the second wall panel and pressed onto the outside of the second wall panel 130. Figs 4b and 4c illustrates the so permanently closed and sealed bag from respective sides of the bag. The bag is now ready for first shipment.

[0070] At pick-up of the bag, the customer may readily activate the handle by punching out the areas defined by the aligned second lines of weakness 125, 135 and conveniently carry the bag from the pick-up facility.

[0071] For opening the bag, the first 124 and second 134 handle portions, which are connected by means of the glue strips 151a 151b, may simultaneously be torn off from the remainder of the bag by tearing the first lines of weakness 126, 136. By this means a new opening 160 is formed about the new upper edges of the bag which are defined by the now broken lines of weakness. As in the example shown in figs. 1a - 2f, such tearing of the non-aligned first lines of weakness 126, 136 forms a second closure flap 137a provided with the second glue line 137.

[0072] The bag may thus readily be closed a second time by removing the peel strip (not shown) from the second glue line 127, folding the second closure flap 137a about the new upper edge of the first wall portion 120 and pressing the second glue line 137 onto the outside of the first wall panel 120. The bag so closed by means of a fold seal is shown in fig. 4e.

[0073] As in the alternative example discussed above, the first tear lines 126, 136 may instead be aligned, whereby the second closure is achieved by a fin seal.

[0074] Figs. 5-6f illustrate a bag according to a third embodiment. A blank 201 for forming this bag is shown in fig. 5a. The blank 201 comprises a first wall panel portion 220 and a second wall panel portion 230 which are

connected by means of a gusset portion 240 extending between respective bottom edges 222, 232 of the wall panel portions and exhibiting a central gusset fold line 141.

5 **[0075]** The first 220 and second 230 wall panel portions exhibit side edges 221a, 221b, 231a, 231b which are provide with glue strips 251a, 251b for connecting the first 220 and second 230 wall panel portions.

10 **[0076]** The first wall panel portion 220 comprises a first handle portion 224a and a second handle portion 224b. The first handle portion 224a is arranged closer to the first wall panels portion's bottom edge 221 than the second handle portion 224b. The first handle portion 224a is connected to that portion of the first wall panel portion which is arranged between the bottom edge 22 and the first handle portion 224a by means of a first line of weakness 226. Said first line of weakness 226 extends from the first side edge 221a to the second side edge 221b. The second handle portion 224b is connected to the first handle portion 224 by means of a handle portion fold line 228a which extends in parallel with said first line of weakness 226. A first closure flap 227 is connected to the second handle portion 224 by means of a first closure flap fold line 227a which extends in parallel with the handle portion fold line 228a and the first line of weakness 226.

25 **[0077]** The first 224a and the second 224b handle portions exhibits cut out handles 225, 235 which are aligned when the second handle portion 224b has been folded onto the first handle portion 224a. As discussed previously the cut out handles could be replaced by second lines of weakness for defining punch-out handles.

30 **[0078]** At least one and in the example shown both of the first 224a and second 224b handle portions are provided with glue fields 224a', 224b'.

35 **[0079]** The second wall panel portion 230 comprises a first closure flap 234a and a second closure flap 234b. The first closure flap 234a is arranged further away from the second panels 230 bottom edge 232 than the second closure flap 234b. The first closure flap 234a is provide with a first glue line 238 which extends between the first 231a and second 231b side edges and which is covered by a peel strip (not shown). The first closure flap 234a is connected to the second closure flap 234b by means of a first line of weakness 236 which extends from the first 231a to the second 231b side edge, in parallel with the top edge 233. The second closure flap 234b is provided with a second glue line 237 which extend in parallel with the first glue line 238 and which is covered by a peel strip (not shown). The second closure flap 234b is further connected to the remainder of the second wall panel portion 230 by means of a second closure fold line 237a which extends from the first 131a to the second 131b side edge, in parallel with the first line of weakness 236.

45 **[0080]** At this embodiment the glue strips 251a, 251b extend from the second closure fold line 237a of the second wall panel portion 230 to the first line of weakness 226 of the first wall panel portions 220.

[0081] When forming the bag, the first 220 and second 230 wall panel portions are folded onto one and another such that corresponding portions of the glue strips 251a, 251b make mutual contact thereby to connect the side edges 221a, 221b, 231a, 231b of the first 220 and second 230 wall panel portions. Additionally, the second handle portion 225b is folded over the handle portion fold line 228a and is pressed against the first handle portion 224a such that the first 224a and second 224b handle portions are permanently connected by means of the glue fields 224a', 224b'. At this folding operation, the first closure flap 227 of the first wall panel portion is left to be freely folded about the first closure flap fold line 227a.

[0082] In the shown example both handle portions 224a, 224b are entirely covered by glue fields 224a', 224b'. Just as for the glue strips 251a, 251b it may however be sufficient that only one of the handle portions exhibits a glue field. Additionally, the entire handle portion need not to be covered by glue. It may suffice that glue is applied to only a portion of one or two handle portions. However, it is preferable that the glue for joining the handle portions seals the bag such that foreign matter cannot enter the bag after first closure. That may be achieved e.g. by applying a glue strip on one of the handle portions, which glue strip extends adjacent and in parallel with the first line of weakness from one side edge to the other.

[0083] The so formed bag is illustrated in figs. 6a-f. The bag may now be initially loaded through an opening which is formed generally between the first line of weakness 226 of the first wall panel 220 and the second closure fold line 237a of the second wall panel 230. This opening may be widened by separating the first 220 and second 230 wall panels at a corresponding region.

[0084] For first closure of the bag, the peel strip (not shown) covering the first glue line 238 is removed and this glue line 238 is pressed against that side of the first closure flap 227 of the first wall panel 220, which faces the first closure flap 234a of the second wall panel 230. The so closed bag is shown in figs. 6b and 6c as seen from opposite sides of the bag.

[0085] For opening the bag, the connected handle portions 224a, 224b are gripped and torn off from the remainder of the bag. The first lines of weakness 226, 236 of the first 220 and second 230 wall panels respectively are then simultaneously broken such that the handle portions 224a, 224b, the first closure flap 227 of the first wall panel 220 and the first closure flap 234a of the second wall panel are removed as a single piece. By this means a new opening 260 arranged between the broken first line of weakness 226 of the first wall portion 220 and the second closure fold line 237a of the second wall panel 230.

[0086] For second closure of the bag, the peel strip (not shown) covering the second glue line 237 is removed and the second closure flap 234b is folded onto the outside of the upper portion of the now remaining part of the first wall panel 220 and fixed thereto by means of the second glue line 237.

[0087] While the present disclosure has been described with reference to exemplary embodiments, it will be appreciated that the present invention is not limited to what has been described above. Although the bag may be produced with the dimension ratios presented in the drawings, it will be appreciated that the dimensions of the parts may be varied as needed. Accordingly, it is intended that the present invention may be limited only by the scope of the claims appended hereto.

Claims

1. A paper bag for receiving and containing goods, the bag comprising:

- a first wall panel (20) having two side edges (21a, 21b), a bottom edge (22) and a top edge (23);
- a second wall panel (30) having two side edges (31a, 31b), a bottom edge (32) and a top edge (33); wherein
- the side edges (21a, 21b) and the bottom edge (22) of the first wall panel (20) are joined to the corresponding side edges (31a, 31b) and bottom edge (32) of the second wall panel (30) leaving an opening between the first and second wall panel; and wherein
- at least one of the wall panels (20, 30) comprises an upper handle portion (24, 34) provided with a handle (25, 35);

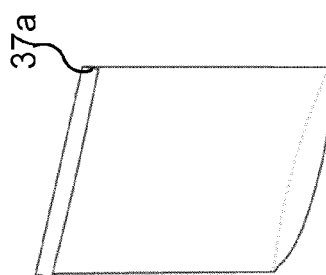
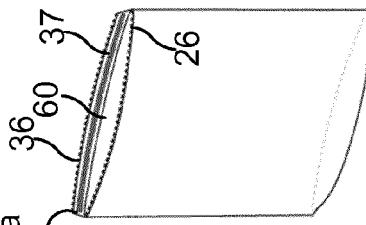
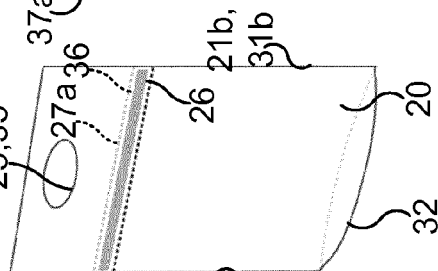
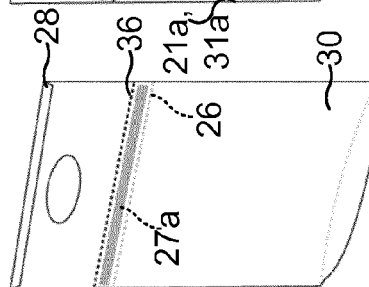
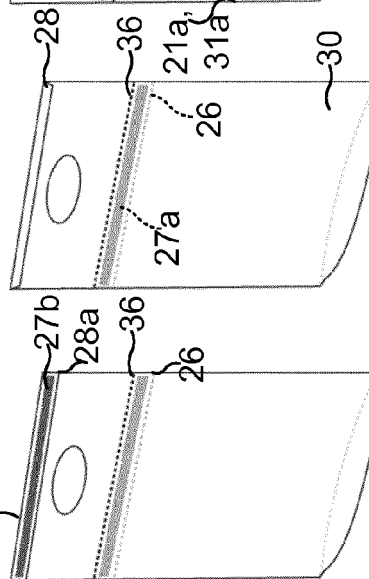
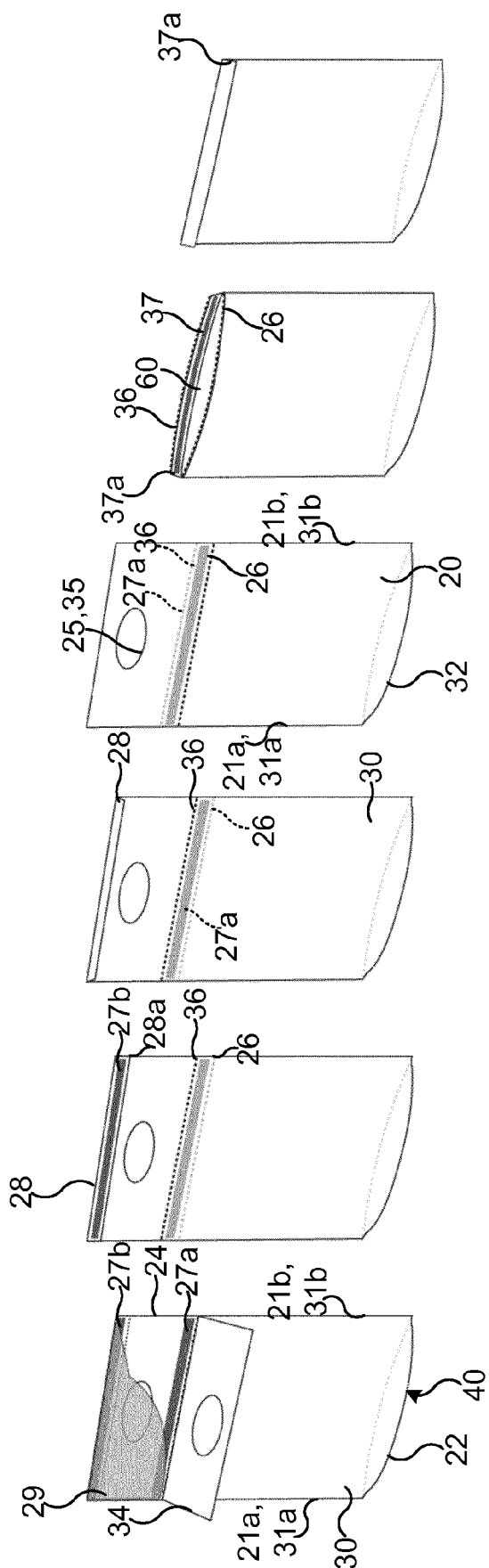
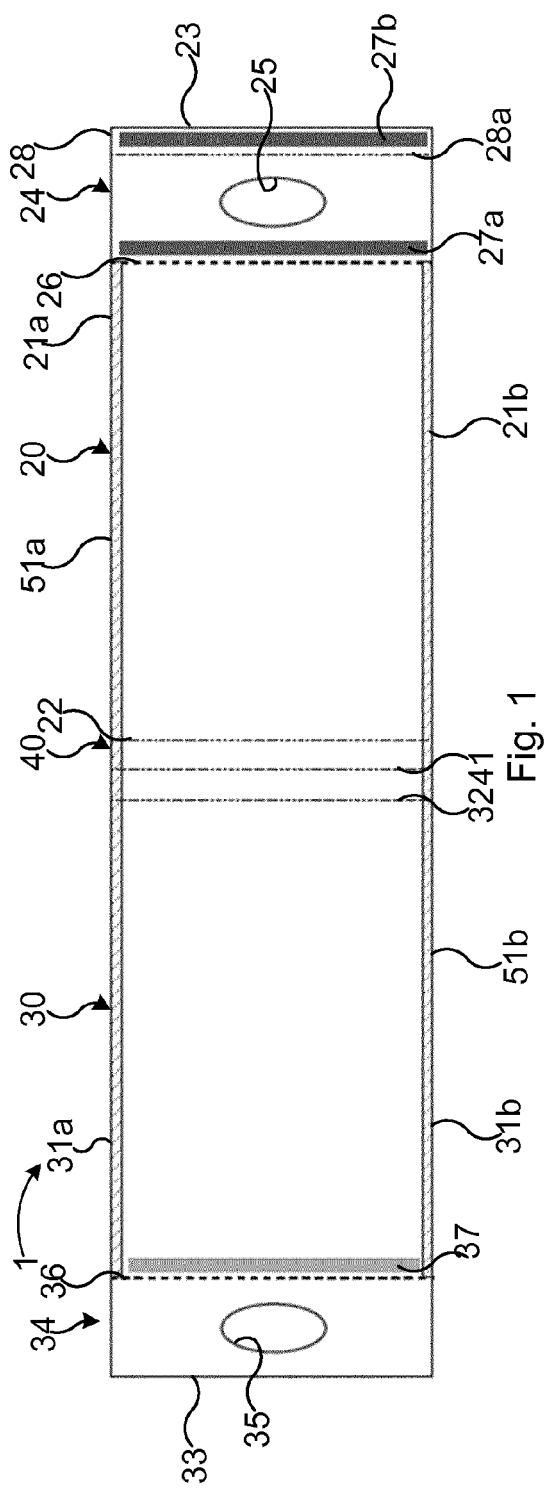
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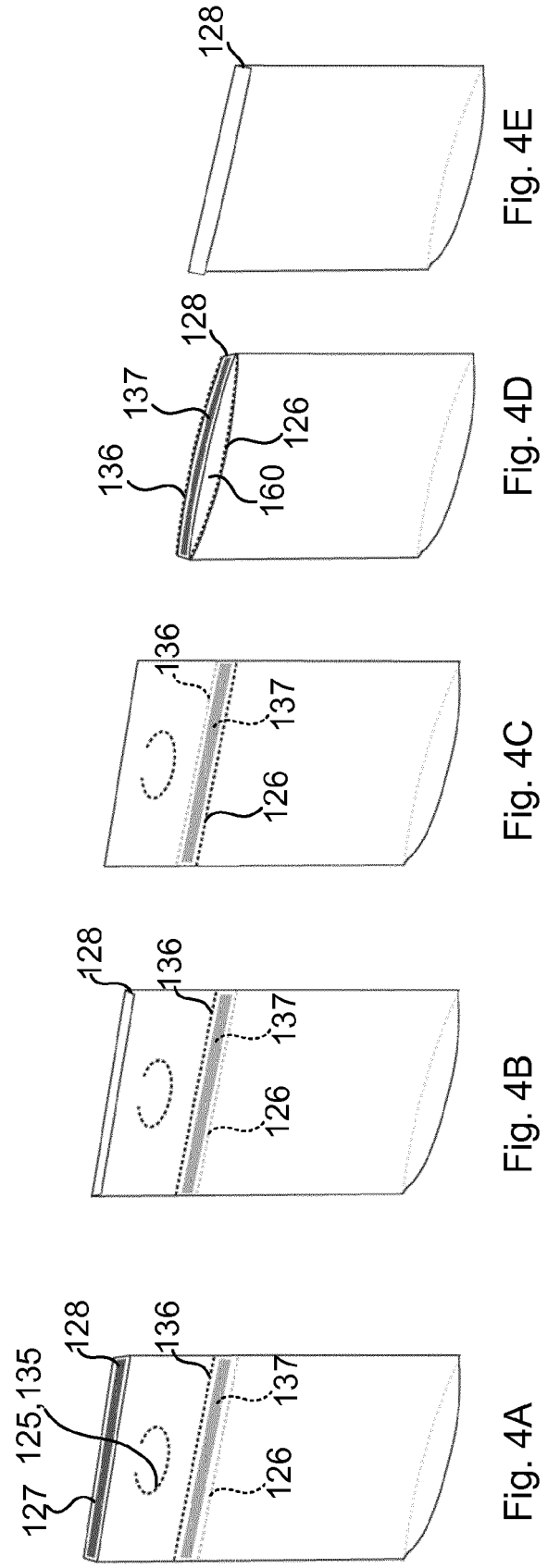
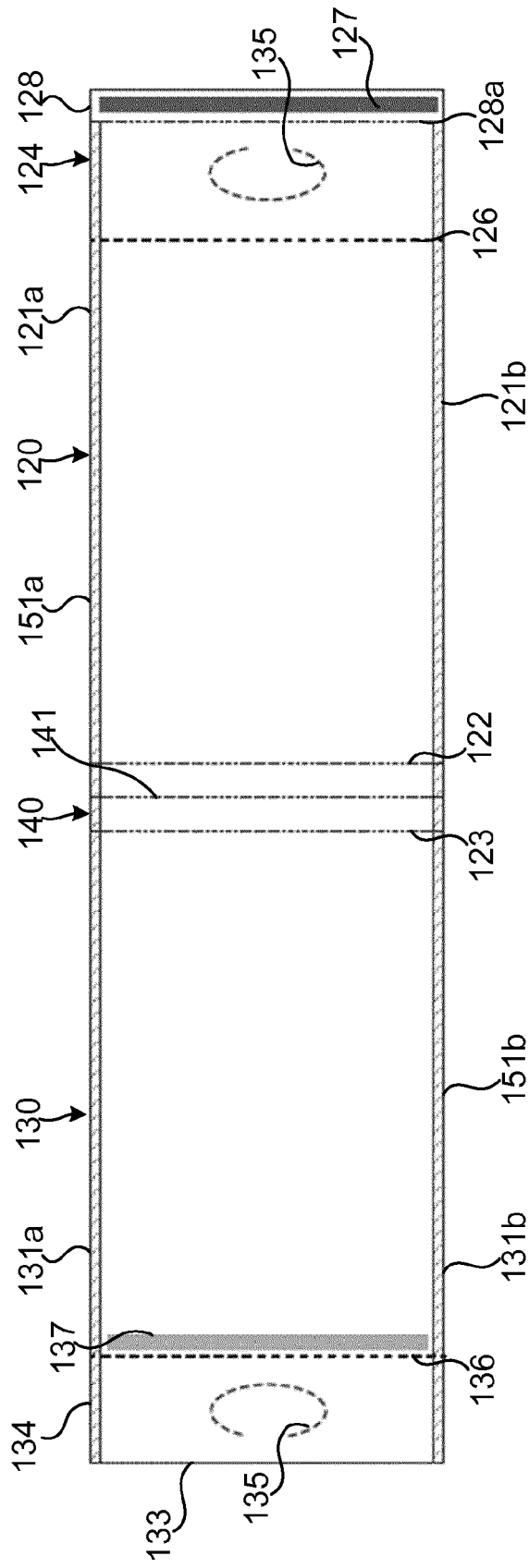
- a first line of weakness (26, 36) extending from one side edge (21a, 31a) to the other (21b, 31b) and arranged between the handle portion (24, 34) and the bottom edge (22, 32) of said at least one wall panel (20, 30) for tearing of the handle portion;
- a first glue line (27a, 27b) extending between the side edges (21a, 31a, 21b, 31b) of at least one wall panel (20, 30) and arranged for first closure of the opening; and
- a second glue line (37) extending between the side edges (31a, 31b) of at least one wall panel (30) and arranged for second closure of the bag after tearing off the at least one upper handle portion (24, 34).

2. The bag according to claim 1, wherein the handle is formed of a second line of weakness (125, 135) arranged in the handle portion (124, 134) for punching out a through hole handle.

3. The bag according to claim 1 or 2, wherein the first (27a, 27b), and/or the second (27) glue line(s) is/are covered by a respective peel strip.

4. The bag according to claims 1 or 2, comprising at least two first glue lines (27a, 27b) which are covered by a single peel strip (29) and/or at least two second glue lines, which are covered by a single peel strip. 5 and/or a tear string attached to the paper material.
5. The bag according to any of claims 1-4, wherein the first (20) and second (30) wall panels each comprise an upper handle portion (24, 34) provided with a handle (25, 35) and a first line of weakness (26, 36) for tearing off the handle portion. 10
6. The bag according to claim 5, wherein the first lines of weakness of the first and second wall panels are aligned. 15
7. The bag according to claim 5, wherein the first lines of weakness (26, 36) of the first (20) and second (30) wall panels are arranged in parallel but not aligned.
8. The bag according to any of claims 1-7, wherein the first (20, 30) and second panels are formed in one piece of paper. 20
9. The bag according to claim 8, wherein the bottom edges of the first (20) and second (30) wall panels are joined by means of a gusset portion (40). 25
10. The bag according to any of claims 1-9claim, wherein the side edges (21a, 21b, 31a, 31b) of the first (20) and second (30) wall panels are joined by means of glue. 30
11. The bag according to claim 10, wherein the glue for joining the side edges (21a, 21b, 31a, 31b) comprises a dispersed starch-based adhesive, with or without PVA. 35
12. The bag according to any of claims 1-11, wherein a first (27b) and/or a second (37) glue line(s) is/are formed on a respective foldable flap (28, 37a) for creating a fold seal at the first and/or second closure respectively. 40
13. The bag according to any of claims 1-12, wherein the bag comprises a kraft paper material having a grammage according to ISO 536:2012 of 50 gsm to 200 gsm, preferably 80 gsm to 140 gsm and more preferably 85 gsm to 120 gsm, where "gsm" means g/m². 45 50
14. The bag according to any of claims 1-13, wherein the first and/or the second glue line comprises a pressure sensitive adhesive such as a cold-melt or hot-melt adhesive. 55
15. The bag according to any of claims 1-14, wherein the first line of weakness (26, 36) comprises a perforation and/or a line of reduced paper material





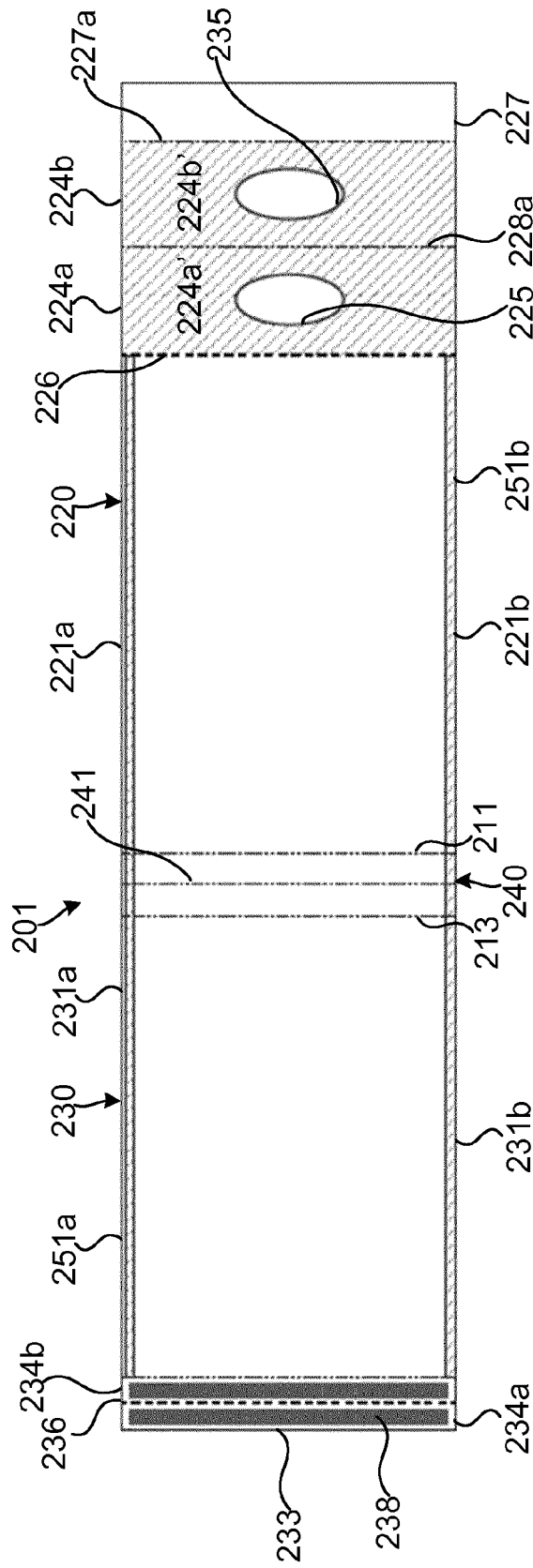
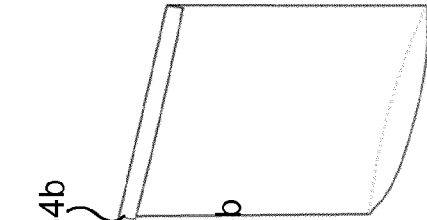
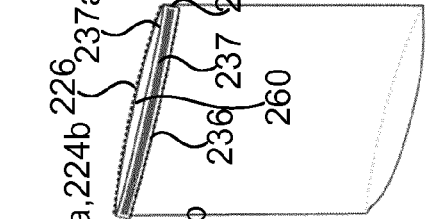
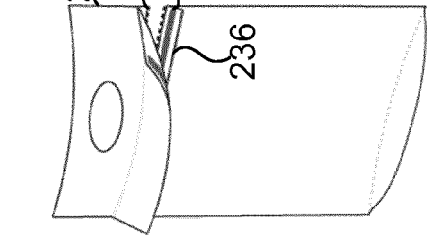
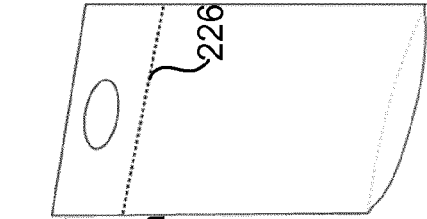
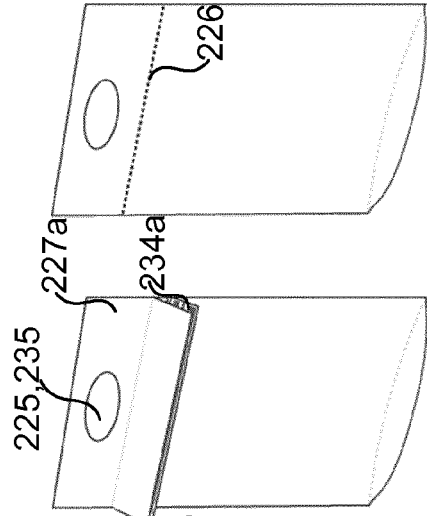
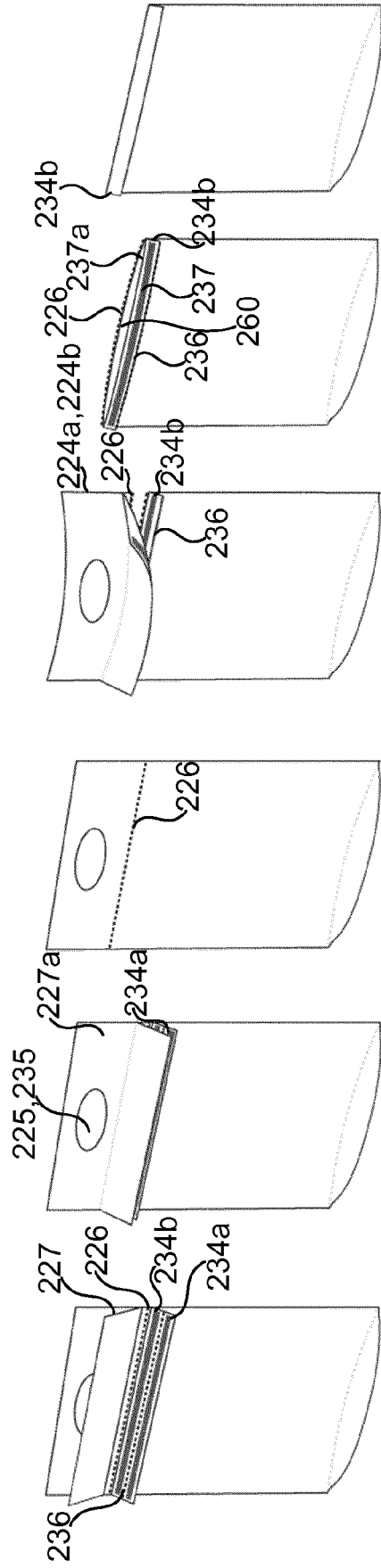


Fig. 5





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Place of search Munich		Date of completion of the search 2 July 2019	Examiner Leijten, René
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