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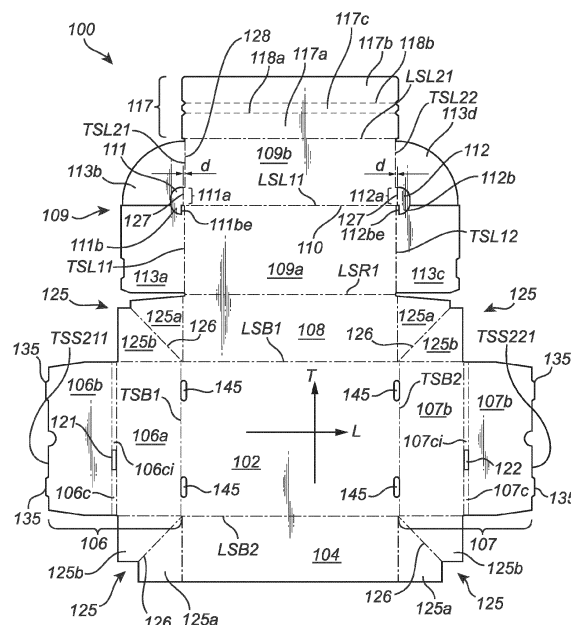
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(54) A BLANK, AND A PACKAGE FORMED FROM A BLANK

(57) There is disclosed a blank (100) for forming a package (200), the blank (100) comprising: a bottom panel (102); a front wall panel (104); two set of side wall panels (106, 107); a rear wall panel (108); a first lid panel (109a), a second lid panel (109b); and a locking flap (111) configured to be inserted into a recess (121), when the blank (100) has been folded into the package (200), and an opening action by folding the first and second lid panels (109a, 109b) about a first longitudinal side (LSR1) of the rear wall panel (108) is initiated, a locking tongue

(111b) of the locking flap (111) interacts with an inner surface (106ci) of the intermediate side wall panel (106c) in a vicinity of the recess (121), and, when an opening action by folding the second lid panel (109b) about an internal fold line (110) is initiated, the folding of the second lid panel (109b) about the internal fold line (110) releases the locking tongue (111b) from the recess (121). The is also disclosed a package (200) formed from such a blank (100).

**Fig. 1****EP 4 410 697 A1**

Description

Field of the invention

[0001] The invention relates to a blank for forming a package. The invention also relates to a package formed from a blank.

Background art

[0002] When designing a package from a blank, it is often desirous to take into account a number of different design criteria. The package should e.g., often be designed such that it makes efficient use of the material, is easy to transport to the point of use, is easy to prepare for use, and provides a strong structure. It should often be formed of a limited number of blanks. It is often desirable that it is strong during handling and stable in an erected state. Moreover, it should often be capable of being erected into a package and used as a package with a lid without the use of adhesive or any other similar means of keeping the package erected and/or closed, or at least with a minimum use of such adhesive or similar means. When designing a package, it is often desirous that the package may be closed and/or locked in a safe, efficient, and simple manner in the erected state.

[0003] Packages made from cardboard are beneficial since they do not take up much space before they are erected, during for example transport. There exist numerous attempts to address the above design criteria in connection to designing a package of cardboard material.

[0004] DE 20 2018 105 392 U1 discloses a package formed from a single blank. The package having a box and a lid, wherein the package has double-walled side-wall panels and two out of four corner panels having a fold line similar to your disclosure. The lid having side panels configured to be received by the box when the package is in the closed state and two locking tabs provided on side panels of a front wall panel. When the package is open for the first time, the locking tabs are demolished at a predetermined breaking point.

[0005] It may be noted that the prior art document does not disclose a package which adequately addresses the set of design criteria that the package should make efficient use of the material, be easy to transport to the point of use, be easy to prepare for use, provide a strong structure, and be closed and/or locked in a safe, efficient, and simple manner in the erected state.

Summary of the invention

[0006] It is an object to mitigate, alleviate, or eliminate one or more of the above-identified deficiencies in the art. It is an object of the invention to adequately addresses the set of design criteria that the package should make efficient use of the material, be easy to transport to the point of use, be easy to prepare for use, provide a strong structure, and be closed and/or locked in a safe, efficient,

and simple manner in the erected state.

[0007] According to a first aspect, there is provided a blank for forming a package, the blank comprising:

a bottom panel;
a front wall panel;
two opposing set of side wall panels being foldably connected to a respective one of two opposing transversally extending sides of the bottom panel, wherein each set of side wall panels comprises a first side wall panel, a second side wall panel and an intermediate side wall panel therebetween, the side wall panels being foldably connected to each other and arranged one after the other as seen along a longitudinal direction as seen in a flat-laid state of the blank, wherein respective set of side wall panels is configured to form a first and a second double-walled side wall, respectively, of the package;
a rear wall panel being foldably connected to the bottom panel at a first longitudinally extending side of the bottom panel ;
a lid comprising a first lid panel and a second lid panel foldably connected to each other about an internal fold line, the first and second lid panels being arranged one after the other as seen along a transversal direction, wherein the first lid panel is connected to the rear wall panel at a first longitudinal side of the rear wall panel;
a first locking flap being foldably connected to the second lid panel at a first transversally extending side of the second lid panel,
wherein the first locking flap is configured to be inserted into a through-going recess of the intermediate side wall panel and between the first and second side wall panels forming the first double-walled side wall,
wherein the first locking flap comprises a connection portion, by which the first locking flap is foldably connected to the second lid panel along a fold line having a transversal extension as seen in a flat-laid state of the blank, and a locking tongue extending from the connection portion towards the rear wall panel;
wherein, when the blank has been folded into the package, and an opening action by folding the lid about the first longitudinal side of the rear wall panel is initiated, the locking tongue of the first locking flap interacts with an inner surface of the intermediate side wall panel in a vicinity of the recess of the first double-walled side wall, and
wherein, when the blank has been folded into the package, and an opening action by folding the second lid panel about the internal fold line is initiated, the folding of the second lid panel about the internal fold line releases the locking tongue of the first locking flap from the recess of the first double-walled side wall.

[0008] With such a design, there is provided a blank

for forming a package, wherein the blank has a bottom panel, a front wall panel, two opposing set of side wall panels, a rear wall panel, a lid, and a locking flap. Thus, the package is formed from one single blank. With the disclosed design, especially in an embodiment where one blank comprises all components, it is facilitated to provide a package which make efficient use of the material and at the same time is easy to erect into the package. It is preferred that the bottom panel, the front wall panel, the two opposing set of side wall panels, the rear wall panel, the lid, and the locking flap extend along a single common plane, as seen in a flat-laid state of the blank.

[0009] With such a design, where each set of side wall panels comprises the first side wall panel, the second side wall panel and the intermediate side wall panel, when the blank is folded into the package, the intermediate side wall panel, the bottom panel, and the lid are preferably oriented in parallel planes. Thereby, a strong and stable structure is formed in which the locking flap is configured to be inserted into the through-going recess in an easy way. With such a design, where the locking flap is configured to be inserted into the through-going recesses of the intermediate side wall panel and between the first and second side wall panels, there is provided a package which is closed in a safe, efficient, and simple manner. There is also provided a package which is kept in place in the erected state. There is also provided a package having a strong, stable, and robust structure in the erected state.

[0010] With such a design, when the opening action by folding the lid about the first longitudinal side of the rear wall panel is initiated and when the locking tongue interacts with an inner surface of the intermediate side wall panel, there is provided a locking mechanism such that the package is locked in the erected state. When the locking tongue interacts with the inner surface of the intermediate side wall panel in the vicinity of the recess, the locking tongue is not released from the recess. The locking tongue provides for that the lid is kept closed in a securely and efficient way without the need of adhesives or any similar means, or at least with a minimum amount of such adhesive or similar means. It should be noted that, when the blank has been folded into the package, and a closing action by folding the lid about the first longitudinal side of the rear wall panel is initiated, the locking tongue is not received by the recess but will instead interact with an outside surface of the intermediate side wall panel in a vicinity of the recess.

[0011] With such a design, when the opening action by folding the second lid panel about the internal fold line is initiated, the locking tongue is released from the recess, whereby is provided an opening mechanism of the package such that the package is open in an easy way in the erected state. When the second lid panel is folded about the internal fold line and when the locking tongue has come around a corner of the recess, the locking tongue will be released from the recess in an easy way such that

the package is open by the second lid panel. Further, when the locking tongue has been released from the recess, the first lid panel may be folded about the first longitudinal side of the rear wall panel such that the package is open by both the first lid panel and the second lid panel. Thus, the opening action which enables the opening the package has to be provided in a two-step movement. On the other hand, the closing action of the package preferably also has to be provided in a two-step movement, wherein the lid is folded about the first longitudinal side of the rear wall panel and thereafter, the second lid panel is folded about the internal fold line such that the locking flap may be received by the recess in a desired way.

[0012] The locking flap may be foldably connected to the second lid panel anywhere along the first transversally extending side of the second lid panel. It should further be noted that depending on where the locking flap is foldably connected to the second lid panel, the second lid panel has to be folded a various angle in order for the locking tongue to be released by the recess. Again, when the locking tongue is released by the recess, the first lid panel may be folded about the first longitudinal side of the rear wall panel such that both the first and second lid panels are open.

[0013] With such a design, where the lid comprises the first lid panel and the second lid panel, there is provided a package which is able to close and/or lock in an easy way without the use of any adhesive or similar means, or at least with a minimum amount of any adhesive or similar means. There is also provided a strong a stable structure of the package when in the erected state.

[0014] The front wall panel may be foldably connected to a second longitudinal direction of the bottom panel. The front panel, the bottom panel, the rear wall panel and the lid may be connected to each other and arranged one after the other as seen along a transversal direction as seen in the flat-laid state of the blank.

[0015] With such a design, where the first and second end wall panels are configured to be folded relative to each other to form the double-walled end wall, the provision of a strong structure is facilitated.

[0016] The locking tongue preferably extends past the internal fold line towards the rear wall panel.

[0017] With such a design, the opening action by folding the second lid panel about the internal fold line, in order to release the locking tongue from the recess, is provided in an easy, efficient, and distinct manner. Preferably, the connection portion of the locking flap is foldably connected to the second lid panel and extend to the internal fold line between the first and second lid panels. The connection portion of the locking flap is thus connected to an inner corner portion of the second lid panel; inner as seen along the transversal direction. Thus, the closer the connection portion is connected to the internal fold line, the smaller may the locking tongue be designed and still being able to extend past the internal fold line. This enables an easy opening action in which the locking tongue is released from the recess in an easy, efficient,

and distinct manner.

[0018] The blank may further comprise a second locking flap being foldably connected to the second lid panel at a second transversally extending side of the second lid panel,

wherein the second locking flap is preferably configured to be inserted into a through-going recess of the intermediate side wall panel and between the first and second side wall panels forming the second double-walled side wall,

wherein the second locking flap may comprise a connection portion, by which the locking flap is foldably connected to the second lid panel along a fold line having a transversal extension as seen in a flat-laid state of the blank, and a locking tongue extending from the connection portion towards the rear wall panel;

wherein, when the blank has been folded into the package, and an opening action by folding the lid about the first longitudinal side of the rear wall panel is initiated, the locking tongue of the second locking flap preferably interacts with an inner surface of the intermediate side wall panel in a vicinity of the recess of the second double-walled side wall, and

wherein, when the blank has been folded into the package, and an opening action by folding the second lid panel about the internal fold line is initiated, the folding of the second lid panel about the internal fold line preferably releases the locking tongue of the second locking flap from the recess of the second double-walled side wall.

[0019] With such a design, there is provided a further improved closing and/or locking of the package when in the erected state. Preferably, the first locking flap and the second locking flap are connected to the second lid panel at the respective transversally extending side of the second lid panel in a similar way and at a similar position such that the opening action may be performed in the easiest and most efficient way as possible. The two locking flaps and the two opposing recesses are preferably mirror symmetrical about a transversal centre line.

[0020] It should however be noted that the second locking flap may in an alternative embodiment be connected to the second lid panel anywhere along the second transversally extending side of the second lid panel as long as the recess of the intermediate side wall panel is positioned such that it is possible for the recess to receive the locking flap when folding the package into the erected state. Preferably, the first locking flap and the second locking flap are designed such that the opening action is able to release the locking tongue of the first locking flap and the locking tongue of the second locking flap in a single folding motion. Preferably, but not necessarily, the two locking tongues are released from the respective recess simultaneously.

[0021] Preferably, the respective locking tongue of the

first locking flap, and of the second locking flap, if present, is/are released from the respective recess when the second lid panel is folded between 45 to 90 degrees, preferably between 60 to 90 degrees, and more preferably between 75-90 degrees, about the internal fold line relative to the first lid panel.

[0022] It is advantageous that the second lid panel need to be folded at least 45 degrees before the locking tongue is released from the recess, since the user thereby can distinctly open the second lid panel and get access to the interior of the package while the first lid panel still is being locked in the closed position. This possibility of distinctly open the second lid panel while the first lid panel is still in the closed position is further improved if the locking tongue is released only once the second lid panel reaches 60 degrees, and even further if the locking tongue is released only once the second lid reaches 75 degrees. The 90 degrees are advantageous for at least two reasons. First of all, it is intuitive that the locking tongue can be released or reinserted when the second lid panel is folded 90 degrees relative to the first lid panel. Secondly, it also facilitates design of the locking tongue since folding of the locking tongue about a transversal fold line and a transversal cut close to and between the locking portion and the remainder of the blank will result in a horizontal extension of the edge of the locking tongue which in combination with a horizontally extending intermediate panel will require a folding of the second lid panel an angle approaching 90 degrees.

[0023] The choice of the angle 45, 60, 75 or close to 90 degrees is accomplished by designing the slope, the shape, and/or the distance of the locking edge of the locking portion such that the locking edge will be able to pass past the edge of the through-going recess in the intermediate panel of the side wall only once the desired release angle has been reached.

[0024] A respective locking edge of the locking tongue of the first locking flap, and of the second locking flap, if present, preferably faces inwardly as seen in a flat-laid state of the blank and preferably faces upwardly when the blank has been folded into a package in a closed state of said package, wherein the respective locking edge preferably has a major extension along the transversal direction as seen in a flat-laid state of the blank, and preferably forms an angle between -15 and +45 degrees, more preferably between -15 and +30, and more preferably between -15 and +15 degrees, relative to the transversal direction.

[0025] With such a design, it is facilitated to provide a distinct locking effect by which there is offered the above discussed possibility of distinctly open the second lid panel while the first lid panel is still in the closed position. It may in this context be noted that the negative angles refers to angles where the respective locking edge faces in a direction having a component along the transversal direction towards the second lid panel 109b as seen in a flat-laid state of the blank and the positive angles refers to angles where the respective locking edge faces in a

direction having a component along the transversal direction towards the rear wall panel.

[0026] The blank may further comprise a first lid end wall panel and a second lid end wall panel,

wherein the first lid end wall panel preferably is foldably connected to a first transversally extending side of the first lid panel and the second lid end wall panel preferably is foldably connected to the first transversally extending side of the second lid panel,

wherein the first and second lid end wall panels are preferably configured to be received at an inside surface of the first double-walled side wall of the package ;

wherein the first lid end wall panel and the second lid end wall panel are preferably separated from each other such that the second lid panel is foldable relative to the first lid panel also when the first and second lid end wall panels are folded relative to the first and second lid panel, respectively, and

wherein when the blank has been folded into the package and the opening action by folding the second lid panel about the internal fold line is performed, the second lid panel is preferably foldable about the internal fold line such that the second lid end wall panel is at least partly, and preferably fully, removed from the interior of the package.

[0027] With such a design, where the blank comprises the lid end wall panels, there is provided a strong and stable structure of the package, when the blank is folded to form the package. The lid end wall panels are designed to receive/carry part of loads, such as the weight of other packages stacked on top of the package and/or impacts during transport and handling, to improve the strength and stability of the package. By the first and second lid end wall panel being separated from each other, the second lid panel is foldable relative to the first lid panel also when the first and second lid end wall panels are folded relative to the first and second lid panels. It may be noted that the double-walled side wall will for parts of its planar extension include more than two layers of material; the first and second side wall panels and for instance the first and second lid end wall panels which may be positioned inside the first and second side wall panels when the package is in the erected state. In the preferred embodiment, there will additionally be corner panels inserted between the first and second side wall panels. However, the term double-walled is herein intended to refer to the fact that the side wall is formed of two major side wall panels being connected to and folded relative to each other.

[0028] The blank may further comprise a third lid end wall panel and a fourth lid end wall panel,

wherein the third lid end wall panel preferably is foldably connected to a second transversally extending side of the second lid panel and the fourth lid end

wall panel preferably is foldably connected to the second transversally extending side of the second lid panel,

wherein the third and fourth lid end wall panels preferably are configured to be received at an inside surface of the second double-walled side wall of the package ;

wherein the third lid end wall panel and the fourth lid end wall panel are separated from each other such that the second lid panel is foldable relative to the first lid panel also when the third and fourth lid end wall panels are folded relative to the first and second lid panel, respectively, and

wherein when the blank has been folded into the package and the opening action by folding the second lid panel about the internal fold line is performed, the second lid panel preferably is foldable about the internal fold line such that the fourth lid end wall panel is at least partly, and preferably fully, removed from the interior of the package.

[0029] With such a design, where the blank comprises the third and fourth lid end wall panels, there is provided a strong and stable structure of the package, when the blank is folded to form the package. The discussion above concerning the first and second lid end panels is equally applicable for the third and fourth lid end panel. It may be noted that the set of the first and second lid end panels and the set of the third and fourth lid end panels preferably is, but does not need to be, mirror symmetrical about a transversally extending centre line.

[0030] The blank may further comprise a set of corner panels at a respective corner of the bottom panel, wherein each set of corner panels preferably comprises a first corner panel being foldably connected to a respective transversal side of the front wall panel or the rear wall panel, wherein the respective first corner panel preferably is insertable between the first and second side wall panels of the respective double-walled side wall.

[0031] With such a design, where the blank further comprises corner panels, there is provided a possibility to further strengthen the package. The corner panels may e.g., be panels being foldably connected to a respective transversal side of the front wall panel or the rear wall panel. The corner panels are preferably insertable between the first and second side wall panels at the respective side wall, whereby the provision of a stable structure is further facilitated. The respective corner panels may be kept in place between the respective side wall panels without the use of any adhesive or similar means, or at least with a minimum amount of any adhesive or similar means. Again, it may be noted that the double-walled side wall will for parts of its planar extension include more than two layers of material; the first and second side wall panels and for instance a set of corner panels which may be positioned between the first and second side wall panels when the package is in the erected state. However, the term double-walled is herein intended to refer to the

fact that the side wall is formed of two major side wall panels being connected to and folded relative to each other.

[0032] The term "at the respective corner of the bottom panel" is herein meant in the geometrical area formed outside of the geometrical extensions of the intersecting fold lines formed between the bottom panel and the side wall panel, respectively between the bottom panel and the first end wall panel at the respective corner.

[0033] At least some, and preferably all the sets of corner panels, preferably further comprises a second corner panel which via the respective first corner panel interconnects the front wall panel or the rear wall panel with the respective first side wall panel,

wherein each set of corner panel preferably comprises an inclined fold line between the respective first and second corner panel, which fold line extends along a virtual line extending diagonally away from the respective corner of the bottom panel allowing the respective first and second corner panels to be folded into a triangular flap, wherein the triangular flap preferably is insertable between the first and second side wall panels of the respective double-walled side wall.

[0034] Preferably, the set of corner panels is designed such that when the package is in the erected state, the set of corner panels is positioned between the first and second side wall panels. The set of corner panels may be designed to guide the respective side wall panel and the front wall panel or the rear wall panel when the package is folded into the erected state. Thus, since the second corner panel which via the respective first corner panel interconnects the front wall panel or the rear wall panel with the respective first side wall panel in combination with the provision of the inclined fold line, it is facilitated to fold the blank into a package. A slight inwardly collapse of the respective set of corner panels results in a slight upward movement of the side wall panels and front or rear wall panels and a continued folding of the side wall panels and/or front or rear wall panels results in final folding of the corner panels. The provision of corner panels being connected to both sides of the respective side wall panel and to the front wall panel and the rear wall panel at all four corners of the bottom panel makes it possible to provide an un-cut bottom perimeter of the package, i.e., to provide a package with a truly closed bottom extending up along the side walls.

[0035] The first side wall panel is preferably connected to the bottom panel and is preferably configured to form an outer surface of the double-walled side wall and the second side wall panel is preferably connected to the first side wall panel, at a side opposing the bottom panel, and is preferably configured to form an inside surface of the double-walled side wall.

[0036] With such a design, it is facilitated to provide a strong package where it is easy to provide locking mechanism keeping the double-walled side walls in the intended position without the use of any adhesive.

[0037] Each second side wall panel preferably com-

prises at least one locking tab being positioned on a first transversally extending side of the second side wall panel, respectively, opposite the first side wall panel and extending from the second side wall panel along the longitudinal direction away from the respective second side wall panel, and

wherein the bottom panel preferably comprises, on the first and second transversally extending side, at least one locking recess whereby the at least one locking tab on the second side wall panel is/are preferably configured to be inserted into the respective locking recess when the first and second end wall panels are folded to form the respective double-walled side wall and thereby lock the respective double-walled side wall in a folded position when the blank is folded to form the package.

[0038] With such a design, where the respective locking recess is configured to receive the respective locking tab of the respective second side wall panel, when the package is folded to form the package, provides for that the package is kept in place in the folded state. The locking tab and locking recess may be said to together form a locking mechanism by which the package is securely kept in place in the erected state. Thus, the locking mechanism provides for a distinct locking of the package when the package is in the erected state without using any adhesive or similar means. By having a locking recess on the first and second transversally extending side of the bottom panel such that respective locking tab is received by the locking recess provides for a strong and stable locking mechanism when the package is in the erected state.

[0039] The locking tab being configured to be removably insertable into the locking recess when the blank has been erected to form the package. With the disclosed design, wherein the locking tab is configured to be inserted into the locking recess, the package may be kept in place when the package is in the erected state. This facilitates provision of a stable package when in the erected state. This facilitates provision of keeping the package in the box state without the use of any adhesive or any similar means, or at least with a minimum use of such adhesive or similar means. Thus, the locking tab is arranged to lock the package in the erected state. The fact that the locking tab is configured to be removably insertable into the locking recess when the blank has been erected to form the package facilitates recycling.

[0040] The blank may further comprise a closing wall panel which preferably comprises a first closing wall panel portion and a second closing wall panel portion, the first closing wall panel portion preferably being foldably connected to a first longitudinal side of the second lid panel, wherein the second closing wall panel portion is preferably connected to the first closing wall panel via one or more perforation lines, wherein preferably the closing wall panel further comprises an intermediate closing wall panel portion arranged between the first and second closing wall panel portions and connected to the first and second closing wall panel portions via a respective

perforation line.

[0041] With such a design, where second closing wall panel is connected to the first closing wall panel via a perforation line, it is facilitated to provide a package which is securely locked until it has been opened for the first time. The second closing wall panel may e.g., be configured to the attached to the outer surface of the front wall panel, such as by being adhesively attached thereto. Alternatively, the second closing wall panel may be attached to an outside surface of the bottom wall panel. Alternatively, the second closing wall panel may be attached to an inside surface of the front wall panel, where the front wall panel in such a case is designed such that there is provided access to the perforation line. In an alternative embodiment, the closing wall panel is a single closing wall panel where the perforation line is provided in the fold line between the closing wall panel and the second lid panel.

[0042] The above advantages are further improved by the provision of an intermediate closing wall panel. With such a design, where the intermediate closing wall panel is connected to the first and second closing wall panels via the respective perforation line, there is provided a package which is securely locked until it has been opened for the first time. Thus, in order to being able to provide the opening action by folding the second lid panel about the internal fold line as previously discussed, the intermediate closing wall panel has to be torn off from the package via the respective perforation line. When the package is open for the first time, the intermediate closing wall panel has to be broken at a predetermined breaking point, i.e., along the respective perforation lines. Thus, if the intermediate closing wall panel is connected to the first and second closing wall panel via the respective perforation line, it indicates that the package has not been opened for a first time. If the intermediate closing wall panel has to be torn off in order to being able to provide the opening action, it also indicates that the package is opened for the first time. If the intermediate closing wall panel has already been torn off, it indicates that the package has been opened one or more times before. Additional strips of tear lines and additional closing wall panels arranged one after the other along the transversal direction may be provided to accomplish a design where the package may be opened and sealed closed several times which e.g., might be of interest for a package being designed for e-commerce including sending products to a customer, and the customer returning products to the retailer. It should be noted that the intermediate closing wall panel only need to be torn off along one of the two perforation lines in order for the package to being able to be opened. However, in the preferred embodiment, the intermediate closing wall panel is however torn off along both of the perforation lines in a single tearing motion.

[0043] The first locking flap, and the second locking flap, if present, is preferably foldably connected to the second lid panel about a respective first fold line,

wherein the second lid end wall panel, and the fourth lid end wall panel, if present, is preferably foldably connected to the second lid panel about a respective second fold line,

wherein the first and second fold lines are preferably arranged at a distance from each other as seen in the longitudinal direction such that the respective locking flap is configured to be inserted in the respective recess of the respective intermediate side wall panel and between the first and second side wall panels forming the respective double-walled side wall, and such that the second lid end wall panel, and the fourth lid end wall panel, if present, is configured to be inserted on an inside surface of the respective double-walled side wall.

[0044] This is advantageous as it allows for the second lid end wall panels and the locking flap to be foldably connected to the second lid panel and thereby be moved when the second lid panel is folded about the internal fold line simultaneously although they are configured to be inserted at different positions when the blank is folded to form the package.

[0045] The smallest distance between the first and second fold lines is preferably such that the resulting distance between the locking flap and the second and fourth lid end wall panel is about equal to or slightly larger than the material thickness of the blank. Thus, the second lid end wall panels are arranged along an inside of the double-walled side wall and the locking flap is arranged between the first and second side walls forming the double-walled side wall such that the second end wall panels and the locking flap are preferably arranged along and at opposite sides of the second side wall panel.

[0046] It should however be noted that if the set of corner panels are inserted between the double-walled side wall and the corner panel and the second side wall panel are arranged to be between the second lid end wall panels and the locking flap, the distance may have to be at least twice the material thickness. Thus, the exact distance may vary depending upon which additional features the package is provided with. In any case the separation a distance between the fold lines allows for a simple assembly.

[0047] The blank may be made of paper-based material. Paper-based material may provide a lightweight package. Paper-based material may be produced in an environmentally friendly manner and may be recycled in a simple manner. Paper-based material may provide a package that is easy to transport and handle before the blank is formed to the package. It may be noted that the blank may be made of other materials. It may be noted that the blank as a whole may be made of paper-based material. It may be noted that the blank need not to be made of the same material through-out. The blank may be made of a paper-based material coated with a polymer-based coating on one or both sides thereof.

[0048] The above object has also been addressed by

the provision of a package formed from a blank according to any one of the preceding claims, wherein

the bottom panel forms a bottom of the package ;
 the front panel forms a front wall of the package ;
 the first and second side wall panel of respective set of side wall panels are folded relative to each other and relative to the bottom panel to form the double-walled side wall of the package ;
 the rear wall panel is folded in relation to the bottom panel such that the rear wall panel forms a rear wall of the package ;
 the lid is folded in relation to the rear wall panel such that the lid forms a lid of the package ; and
 the locking flap is folded in relation to the second lid panel and is inserted in the recess of the intermediate side wall panel and between the first and second side wall panels forming the double-walled side wall, wherein, when the blank has been folded into the package, and an opening action by folding the lid about the first longitudinal side of the rear wall is initiated, the locking tongue interacts with an inner surface of the intermediate side wall panel in a vicinity of the recess, and
 wherein, when the blank has been folded into the package, and an opening action by folding the second lid panel about the internal fold line is initiated, the folding of the second lid panel about the internal fold line releases the locking tongue from the recess.

[0049] The advantages of the respective feature have been discussed above with reference to the blank and that discussion is equally applicable in respect of the package. It may also be note that the various preferred embodiment discussed in relation to the blank are also equally applicable to the package.

[0050] The disclosure may also in short be said to relate to a blank for forming a package, the blank comprising: a bottom panel; a front wall panel; two set of side wall panels; a rear wall panel; a first lid panel, a second lid panel; and a locking flap configured to be inserted into a recess, when the blank has been folded into the package, and an opening action by folding the first and second lid panels about a first longitudinal side of the rear wall panel is initiated, a locking tongue of the locking flap interacts with an inner surface of the intermediate side wall panel in a vicinity of the recess, and, when an opening action by folding the second lid panel about an internal fold line is initiated, the folding of the second lid panel about the internal fold line releases the locking tongue from the recess.

[0051] It may be noted that the use of first, second, third, fourth, etc. are mainly to be seen as labels facilitating reading and that it does not necessarily mean that there need to be all the intervening numbers of panels or fold lines present. However, to facilitate reading, the numbering first, second, third, fourth, etc., have consistently been used as labels, and in a sense the numbering

is based on an embodiment including all conceivable panels.

[0052] It may also be noted that panel names such as bottom, side wall and rim are intended meant to be read as labels, not necessarily defining the orientation of the panel.

[0053] Generally, all terms used in the claims are to be interpreted according to their ordinary meaning in the technical field, unless explicitly defined otherwise herein. All references to "a/an/the [element, device, component, means, step, etc.]" are to be interpreted openly as referring to at least one instance of said element, device, component, means, step, etc., unless explicitly stated otherwise. The steps of any method disclosed herein do not have to be performed in the exact order disclosed, unless explicitly stated.

Brief description of the drawings

[0054] The above, as well as additional objects, features, and advantages of the present invention, will be better understood through the following illustrative and non-limiting detailed description of preferred embodiments of the present invention, with reference to the appended drawings, where the same reference numerals will be used for similar elements, wherein:

Figure 1 discloses a blank for forming a package.

Figure 2 discloses a package formed from a blank, wherein the package is closed and a tear opening thereof is indicated.

Figure 3 discloses a package formed from a blank, wherein the package is opened by one lid panel being folded relative to another lid panel.

Figure 4 discloses a blank during an initial stage of a folding operation.

Description of Embodiments

[0055] The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which currently preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be constructed as limited to the embodiments set forth herein; rather, these embodiments are provided for thoroughness and completeness, and fully convey the scope of the invention to the skilled person.

[0056] With reference to Fig. 1, a blank 100 for forming a package 200 is illustrated by way of example. The package 200 is further illustrated in connection with Figs 2 to 4.

[0057] The blank 100 comprises a bottom panel 102, a front wall panel 104, a rear wall panel 108 and a lid 109. The front wall panel 104, the bottom panel 102, the rear wall panel 108 and the lid 109 are foldably connected to each other and arranged one after the other as seen along a transversal direction T as seen in a flat-laid state of the blank 100. The rear wall panel 108 is foldably con-

nected to the bottom panel 102 at a first longitudinally extending side LSB1 of the bottom panel 102. The front panel 104 is foldably connected to the bottom panel 102 at a second longitudinally extending side LSB2 of the bottom panel 102.

[0058] The lid 109 comprises a first lid panel 109a and a second lid panel 109b. The first and second lid panels 109a-b are foldably connected to each other about an internal fold line 110. The first and second lid panels 109a-b are arranged one after the other as seen along the transversal direction T, as seen in the flat-laid state of the blank 100. The first lid panel 109a is foldably connected to the rear wall panel 108 at a first longitudinally extending side LSR1 of the rear wall panel 108 and the second lid panel 109b is foldably connected to the first lid panel 109a at a first longitudinally extending side LSL11 of the first lid panel 109a.

[0059] The blank 100 further comprises two opposing sets of side wall panels 106, 107. Each set of side wall panels 106, 107 comprises a first side wall panel 106a, 107a, a second side wall panel 106b, 107b, and an intermediate side wall panel 106c, 107c between the first and second side wall panels 106a, 107a, 106b, 107b. The side wall panels 106a-c, 107a-c are foldably connected to each other and arranged one after the other as seen along a longitudinal direction L as seen in the flat-laid state of the blank 100. The first side wall panels 106a, 107a are foldably connected to the bottom panel 102 at a respective one of two opposing transversally extending sides TSB1, TSB2 of the bottom panel 102. As is best illustrated in Figs 2 and 3, respective set of side wall panels 106, 107 is configured to form a respective double-walled side wall 206, 207 of the package 200.

[0060] As shown in Fig 1, the blank 100 further comprises a first locking flap 111 and preferably also a second locking flap 112. The locking flap 111 is foldably connected to the second lid panel 109b at a first transversally extending side TSL21 of the second lid panel. The second locking flap 112 is foldably connected to the second lid panel 109b at a second transversally extending side TSL22 of the second lid panel 109b, wherein the first and second transversally extending sides TSL21, TSL22 are arranged on opposite sides of the second lid panel 109b as seen along the longitudinal direction L. The locking flaps 111, 112 each comprises a respective connection portion 111a, 112a and a respective locking tongue 111b, 112b. The connection portions 111a, 112a are foldably connected to the second lid panel 109b along a respective fold line 127, 128 which have a transversal extension as seen in the flat-laid state of the blank 100. It may be noted that the fold lines 127, 128 need not extend parallel to the transversal direction T. The fold lines 127, 128 may be slightly inclined relative to the transversal direction T, such as within an angle being ± 10 degrees. However, in the preferred embodiment, the fold lines 127, 128 are parallel to the transversal direction T. The locking tongues 111b, 112b extend, as seen in a flat-laid state of the blank 100, from the connection portions 111a, 112a

towards the rear wall panel 108. The locking tongues 111b, 112b extend, as seen in a flat-laid state of the blank 100, past the internal fold line 110 between the first and second lid panels 109a-b towards the rear wall panel 108. As best illustrated in Figs 2 and 3, the locking flaps 111, 112 are configured to be inserted into a respective through-going recess 121, 122 of the respective intermediate side wall panels 106c, 107c and between the first and second side wall panels 106a-b, 107a-b forming the respective double-walled side wall 206, 207 of the package 200.

[0061] As is best shown in Fig. 3, when the blank 100 has been folded into the package 200, and an opening action by folding the lid 109 about the first longitudinal side LSR1 of the rear wall panel 108 is initiated, the locking tongue 111b of the first locking flap 111 interacts with an inner surface 106ci of the intermediate side wall panel 106c in a vicinity of the recess 121 of the first double-walled side wall 206 and counter-acts opening of the lid 109 by a folding operation about the first longitudinal side LSR1 of the rear wall panel 108. However, when the blank 100 has been folded into the package 200, and an opening action by folding the second lid panel 109b about the internal fold line 110 is initiated, the folding of the second lid panel 109b about the internal fold line 110 releases the locking tongue 111b of the first locking flap 111 from the recess 121 of the first double-walled side wall 206.

[0062] As shown in Fig. 3, the locking tongues 111b, 112b of the first locking flap 111 and of the second locking flap 112 are released from the respective recess 121, 122 when the second lid panel 109b is folded about 90 degrees relative to the first lid panel 109a. However, the blank 100 and package 200 may be designed such that the locking tongues 111b, 112b of the first locking flap 111 and of the second locking flap 112 are released from the respective recess 121, 122 when the second lid panel 109b is folded between 45 to 90 degrees, preferably between 60 to 90 degrees, and more preferably between 75-90 degrees, about the internal fold line 110 relative to the first lid panel 109a.

[0063] A respective locking edge 111be, 112be of the locking tongue 111b, 112b of the first locking flap 111 and of the second locking flap 112 faces inwardly, as seen in a flat-laid state of the blank 100, and faces upwardly when the blank 100 has been folded into a package 200 in a closed state of said package 200. Part of the, or the whole, locking edge 111be, 112be abuts the inside surface 106ci, 107ci of the respective intermediate side wall panel 106c, 107c. The respective locking edge 111be, 112be has a major extension along the transversal direction T as seen in a flat-laid state of the blank, and preferably forms an angle between -15 and $+45$ degrees, more preferably between -15 and $+30$, and more preferably between -15 and $+15$ degrees, relative to the transversal direction T.

[0064] As shown in Fig. 1, the blank 100 further comprises a first lid end wall panel 113a and a second lid end wall panel 113b. The first lid end wall panel 113a is fold-

ably connected to a first transversally extending side TSL11 of the first lid panel 109a and the second lid end wall panel 113b is foldably connected to the first transversally extending side TSL21 of the second lid panel 109b. The blank 100 further comprises a third lid end wall panel 113c and a fourth lid end wall panel 113d. The third lid end wall panel 113c is foldably connected to a second transversally extending side TSL12 of the second lid panel 109a and the fourth lid end wall panel 113d is foldably connected to the second transversally extending side TSL22 of the second lid panel 109b. It may be noted that the first lid end wall panel 113a is arranged opposite the third lid end wall panel 113c, and that the second lid end wall panel 113b is arranged opposite the fourth lid end wall panel 113d, opposite as seen along the longitudinal direction L.

[0065] As is shown in Figs. 2 and 3, the first and second lid end wall panels 113a, 113b are configured to be received at an inside surface of the first double-walled side wall 206 of the package 200, and the third and fourth lid end wall panels 113c, 113d are configured to be received at an inside surface of the second double-walled side wall 207 of the package 200.

[0066] The first and second locking flaps 111, 112 are foldably connected to the second lid panel 109b about a respective first fold line 127. The second and fourth lid end wall panels 113b, 113d are foldably connected to the second lid panel 109b about a respective second fold line 128. The first and second fold lines 127, 128 are, at the respective side, arranged at a distance d from each other as seen in the longitudinal direction L such that the respective locking flap 111, 112 is configured to be inserted in the respective recess 121, 122 of the respective intermediate side wall panel 106c, 107c and between the first and second side wall panels 106a-b, 107a-b forming the respective double-walled side wall 206, 207, and such that the second and fourth lid end wall panels 113b, 113d are configured to be inserted on an inside surface 206b, 207b of the respective double-walled side wall 206, 207.

[0067] As is shown in Fig. 1, the first lid end wall panel 113a and the second lid end wall panel 113b are separated from each other such that the second lid panel 109b is, as shown in Fig. 3, foldable relative to the first lid panel 109a also when the first and second lid end wall panels 113a, 113b are folded relative to the first and second lid panel 109a, 109b, respectively. Also, the third lid end wall panel 113c and the fourth lid end wall panel 113d are separated from each other such that the second lid panel 109b is foldable relative to the first lid panel 109a also when the third and fourth lid end wall panels 113c, 113d are folded relative to the first and second lid panel 109a, 109b, respectively.

[0068] When the blank 100 has been folded into the package 200 and the opening action by folding the second lid panel 109b about the internal fold line 110 is performed, the second lid panel 109b is foldable about the internal fold line 110 such that the second lid end wall

panel 113b is at least partly or even fully removed from the interior of the package 200. An advantage with having it fully removed is that it becomes possible to get access to the opening also from the sides and that it becomes possible to handle the second lid end wall panel 113b independently. It may be noted that the angle by which the second lid panel 109b is folded about the internal fold line 110 to release the second lid end wall panel 113b may be different from the angle by which the second lid panel 109b is folded to release the locking tongues 111b, 112b from the respective recess 121, 122. If the necessary angle by which the second lid panel 109b is folded to release the locking tongues 111b, 112b from the respective recess 121, 122 is larger than the angle by which the second lid panel 109b is folded about the internal fold line 110 to release the second lid end wall panel 113b, the second lid end wall panel 113b remains tucked along the inside surface 206b of the first double-walled side wall 206 until lid 109 is opened by the first lid panel 109a being folded relative to the rear wall panel 108. The discussion above concerning the second lid end wall panel 113b is equally applicable to the fourth lid end wall panel 113d in relation to its associated locking flap 112 and its associated second double-walled side wall 207.

[0069] As is shown in Figs. 1 and 4, the blank 100 further comprises a set of corner panels 125 at a respective corner of the bottom panel 102. Each set of corner panels 125 comprises a first corner panel 125a being foldably connected to a respective transversally extending side of the front wall panel 104 or the rear wall panel 108. In one embodiment, the respective set of corner panels 125 includes only this first corner panel 125a. The respective first corner panel 125a may be attached to an inside surface 206b, 207b of the respective side wall 206, 207. In the preferred embodiment, the respective first corner panel 125a is insertable between the first and second side wall panels 106a, 107a, 106b, 107b of the respective double-walled side wall 206, 207. The respective first corner panel 125a connected to the front wall panel 104 are inserted into a respective slit formed at the front surface of the respective double-walled side wall 206, 207. The respective first corner panel 125a connected to the rear wall panel 108 are inserted into a respective slit formed at the rear surface of the respective double-walled side wall 206, 207.

[0070] Some and preferably all the sets of corner panels 125 further comprises a second corner panel 125b which via the respective first corner panel 125a interconnects the front wall panel 104 or the rear wall panel 108 with the respective first side wall panel 106a, 107a. Each such set of corner panel 125 comprising both the first and the second corner panel 125a, 125b preferably also comprises an inclined fold line 126 between the respective first and second corner panel 125a, 125b. The fold line 126 extends along a virtual line extending diagonally away from the respective corner of the bottom panel 102 and allows the respective first and second corner panels 125a, 125b to be folded into a triangular flap. It may also

be noted that the respective first and second corner panels 125a, 125b also typically defines a triangular panel. The triangular flap is preferably insertable between the first and second side wall panels 106a, 107a, 106b, 107b of the respective double-walled side wall (206, 207), in the manner discussed above with reference to the first corner panel 125a.

[0071] As is best shown in Figs. 2-4, the first side wall panel 106a, 107a is connected to the bottom panel 102 and is configured to form an outer surface 206a, 207a of the double-walled side wall 206, 207 and the second side wall panel 106b, 107b is connected to the first side wall panel 106a, 107a, at a side opposing the bottom panel 102, and is configured to form an inside surface 206b, 207b of the double-walled side wall 206, 207.

[0072] As is best shown in Fig. 1, each second side wall panel 106b, 107b comprises at least one locking tab 135 being positioned on a first transversally extending side TSS211, TSS221 of the second side wall panel 106b, 107b, respectively, opposite the first side wall panel 106a, 107a. The respective locking tab 135 extends from the second side wall panel 106b, 107b along or counter the longitudinal direction L away from the respective second side wall panel 106b, 107b. Associated therewith, the bottom panel 102 comprises, on the first and second transversally extending side TSB1, TSB2, at least one locking recess 145. As is best shown in Fig. 3, the at least one locking tab 135 on the second side wall panel 106b, 107b is/are configured to be inserted into the respective locking recess 145 when the first and second end wall panels 106a-b, 107a-b are folded to form the respective double-walled side wall 206, 207 and thereby lock the respective double-walled side wall 206, 207 in a folded position when the blank 100 is folded to form the package 200.

[0073] As is best shown in Figs. 1 and 2, the blank 100 further comprises a closing wall panel 117 which comprises a first closing wall panel portion 117a and a second closing wall panel portion 117b. The first closing wall panel portion 117a is foldably connected to a first longitudinal side LSL21 of the second lid panel 109b. The second closing wall panel portion 117b is connected to the first closing wall panel 117a via one or more perforation lines 118a-b. In the preferred embodiment, the closing wall panel 117 further comprises an intermediate closing wall panel portion 117c which is arranged between the first and second closing wall panel portions 117a, 117b and which is connected to the first and second closing wall panel portions 117a, 117b via a respective perforation line 118a-b. The intermediate closing wall panel portion 117c forms a tear away strip. The second closing wall panel portion 117b is configured to be attached to the front wall panel 104, preferably to the outside surface of the front wall panel 104.

[0074] The blank 100 is made of paper-based material. It may be noted that the blank 100 as a whole may be made of paper-based material. It may be noted that the blank 100 need not to be made of the same material

through-out. The blank 100 may e.g., be made of a paper-based material coated with a polymer-based coating on one or both sides thereof.

[0075] It is contemplated that there are numerous modifications of the embodiments described herein, which are still within the scope of the invention as defined by the appended claims.

[0076] Additionally, variations to the disclosed embodiments can be understood and effected by the skilled person in practicing the claimed invention, from a study of the drawings, the disclosure, and the appended claims. In the claims, the word "comprising" does not exclude other elements or steps, and the indefinite article "a" or "an" does not exclude a plurality. The mere fact that certain measures are recited in mutually different dependent claims does not indicate that a combination of these measures cannot be used to advantage.

Claims

1. A blank (100) for forming a package (200), the blank (100) comprising:

- a bottom panel (102);
- a front wall panel (104);
- two opposing set of side wall panels (106, 107) being foldably connected to a respective one of two opposing transversally extending sides (TSB1, TSB2) of the bottom panel (102), wherein each set of side wall panels (106, 107) comprises a first side wall panel (106a, 107a), a second side wall panel (106b, 107b) and an intermediate side wall panel (106c, 107c) therebetween, the side wall panels (106a-c, 107a-c) being foldably connected to each other and arranged one after the other as seen along a longitudinal direction (L) as seen in a flat-laid state of the blank (100), wherein respective set of side wall panels (106, 107) is configured to form a first and a second double-walled side wall (206, 207), respectively, of the package (200);
- a rear wall panel (108) being foldably connected to the bottom panel (102) at a first longitudinally extending side (LSB1) of the bottom panel (102);
- a lid (109) comprising a first lid panel (109a) and a second lid panel (109b) foldably connected to each other about an internal fold line (110), the first and second lid panels (109a-b) being arranged one after the other as seen along a transversal direction (T), wherein the first lid panel (109a) is connected to the rear wall panel (108) at a first longitudinal side (LSR1) of the rear wall panel (108);
- a first locking flap (111) being foldably connected to the second lid panel (109b) at a first transversally extending side (TSL21) of the second lid panel (109b),

wherein the first locking flap (111) is configured to be inserted into a through-going recess (121) of the intermediate side wall panel (106c) and between the first and second side wall panels (106a-b) forming the first double-walled side wall (206),

wherein the first locking flap (111) comprises a connection portion (111a), by which the first locking flap (111) is foldably connected to the second lid panel (109b) along a fold line having a transversal extension as seen in a flat-laid state of the blank (100), and a locking tongue (111b) extending from the connection portion (111a) towards the rear wall panel (108);

wherein, when the blank (100) has been folded into the package (200), and an opening action by folding the lid (109) about the first longitudinal side (LSR1) of the rear wall panel (108) is initiated, the locking tongue (111b) of the first locking flap (111) interacts with an inner surface (106ci) of the intermediate side wall panel (106c) in a vicinity of the recess (121) of the first double-walled side wall (206), and

wherein, when the blank (100) has been folded into the package (200), and an opening action by folding the second lid panel (109b) about the internal fold line (110) is initiated, the folding of the second lid panel (109b) about the internal fold line (110) releases the locking tongue (111b) of the first locking flap (111) from the recess (121) of the first double-walled side wall (206).

2. The blank (100) according to claim 1, wherein the locking tongue (111b) extends past the internal fold line (110) towards the rear wall panel (108).

3. The blank (100) according to claim 1 or 2, wherein the blank (100) comprises a second locking flap (112) being foldably connected to the second lid panel (109b) at a second transversally extending side (TSL22) of the second lid panel (109b),

wherein the second locking flap (112) is configured to be inserted into a through-going recess (122) of the intermediate side wall panel (107c) and between the first and second side wall panels (107a-b) forming the second double-walled side wall (207),

wherein the second locking flap (112) comprises a connection portion (112a), by which the locking flap (112) is foldably connected to the second lid panel (109b) along a fold line having a transversal extension as seen in a flat-laid state of the blank (100), and a locking tongue (112b) extending from the connection portion (112a) towards the rear wall panel (108);

wherein, when the blank (100) has been folded

into the package (200), and an opening action by folding the lid (109) about the first longitudinal side (LSR1) of the rear wall panel (108) is initiated, the locking tongue (112b) of the second locking flap (112) interacts with an inner surface (107ci) of the intermediate side wall panel (107c) in a vicinity of the recess (122) of the second double-walled side wall (207), and

wherein, when the blank (100) has been folded into the package (200), and an opening action by folding the second lid panel (109b) about the internal fold line (110) is initiated, the folding of the second lid panel (109b) about the internal fold line (110) releases the locking tongue (112b) of the second locking flap (112) from the recess (122) of the second double-walled side wall (207).

4. The blank (100) according to any one of the preceding claims, wherein the respective locking tongue (111b, 112b) of the first locking flap (111), and of the second locking flap (112), if present, is/are released from the respective recess (121, 122) when the second lid panel (109b) is folded between 45 to 90 degrees, preferably between 60 to 90 degrees, and more preferably between 75-90 degrees, about the internal fold line (110) relative to the first lid panel (109a).

5. The blank (100) according to any one of the preceding claims, wherein a respective locking edge (111be, 112be) of the locking tongue (111b, 112b) of the first locking flap (111), and of the second locking flap (112), if present, faces inwardly as seen in a flat-laid state of the blank (100) and faces upwardly when the blank (100) has been folded into a package (200) in a closed state of said package (200), wherein the respective locking edge (111be, 112be) has a major extension along the transversal direction (T) as seen in a flat-laid state of the blank, and preferably forms an angle between -15 and +45 degrees, more preferably between -15 and +30, and more preferably between -15 and +15 degrees, relative to the transversal direction (T).

6. The blank (100) according to any one of the preceding claims,

wherein the blank (100) further comprises a first lid end wall panel (113a) and a second lid end wall panel (113b),

wherein the first lid end wall panel (113a) is foldably connected to a first transversally extending side (TSL11) of the first lid panel (109a) and the second lid end wall panel (113b) is foldably connected to the first transversally extending side (TSL21) of the second lid panel (109b),

wherein the first and second lid end wall panels

- (113a, 113b) are configured to be received at an inside surface of the first double-walled side wall (206) of the package (200); wherein the first lid end wall panel (113a) and the second lid end wall panel (113b) are separated from each other such that the second lid panel (109b) is foldable relative to the first lid panel (109a) also when the first and second lid end wall panels (113a, 113b) are folded relative to the first and second lid panel (109a, 109b), respectively, and wherein when the blank (100) has been folded into the package (200) and the opening action by folding the second lid panel (109b) about the internal fold line (110) is performed, the second lid panel (109b) is foldable about the internal fold line (110) such that the second lid end wall panel (113b) is at least partly, and preferably fully, removed from the interior of the package (200).
7. The blank (100) according to any one of the preceding claims, wherein the blank (100) further comprises a third lid end wall panel (113c) and a fourth lid end wall panel (113d),
- wherein the third lid end wall panel (113c) is foldably connected to a second transversally extending side (TSL12) of the second lid panel (109a) and the fourth lid end wall panel (113d) is foldably connected to the second transversally extending side (TSL22) of the second lid panel (109b),
- wherein the third and fourth lid end wall panels (113c, 113d) are configured to be received at an inside surface of the second double-walled side wall (207) of the package (200);
- wherein the third lid end wall panel (113c) and the fourth lid end wall panel (113d) are separated from each other such that the second lid panel (109b) is foldable relative to the first lid panel (109a) also when the third and fourth lid end wall panels (113c, 113d) are folded relative to the first and second lid panel (109a, 109b), respectively, and
- wherein when the blank (100) has been folded into the package (200) and the opening action by folding the second lid panel (109b) about the internal fold line (110) is performed, the second lid panel (109b) is foldable about the internal fold line (110) such that the fourth lid end wall panel (113d) is at least partly, and preferably fully, removed from the interior of the package (200).
8. The blank (100) according to any one of the preceding claims, wherein the blank (100) further comprises a set of corner panels (125) at a respective corner of the bottom panel (102), wherein each set of corner panels (125) comprises a first corner panel (125a) being foldably connected to a respective transversally extending side of the front wall panel (104) or the rear wall panel (108), wherein the respective first corner panel (125a) preferably is insertable between the first and second side wall panels (106a, 107a, 106b, 107b) of the respective double-walled side wall (206, 207).
9. The blank (100) according to claim 8, wherein at least some and preferably all the sets of corner panels (125) further comprises a second corner panel (125b) which via the respective first corner panel (125a) interconnects the front wall panel (104) or the rear wall panel (108) with the respective first side wall panel (106a, 107a), wherein each set of corner panel (125) comprises an inclined fold line (126) between the respective first and second corner panel (125a, 125b), which fold line (126) extends along a virtual line extending diagonally away from the respective corner of the bottom panel (102) allowing the respective first and second corner panels (125a, 125b) to be folded into a triangular flap, wherein the triangular flap preferably is insertable between the first and second side wall panels (106a, 107a, 106b, 107b) of the respective double-walled side wall (206, 207).
10. The blank (100) according to any one of the preceding claims, wherein the first side wall panel (106a, 107a) is connected to the bottom panel (102) and is configured to form an outer surface (206a, 207a) of the double-walled side wall (206, 207) and the second side wall panel (106b, 107b) is connected to the first side wall panel (106a, 107a), at a side opposing the bottom panel (102), and is configured to form an inside surface (206b, 207b) of the double-walled side wall (206, 207).
11. The blank (100) according to claim 10,
- wherein each second side wall panel (106b, 107b) comprises at least one locking tab (135) being positioned on a first transversally extending side (TSS211, TSS221) of the second side wall panel (106b, 107b), respectively, opposite the first side wall panel (106a, 107a) and extending from the second side wall panel (106b, 107b) along the longitudinal direction (L) away from the respective second side wall panel (106b, 107b), and
- wherein the bottom panel (102) comprises, on the first and second transversally extending side (TSB1, TSB2), at least one locking recess (145) whereby the at least one locking tab (135) on the second side wall panel (106b, 107b) is/are configured to be inserted into the respective locking recess (145) when the first and second end wall panels (106a-b, 107a-b) are folded to

form the respective double-walled side wall (206, 207) and thereby lock the respective double-walled side wall (206, 207) in a folded position when the blank (100) is folded to form the package (200).

12. The blank (100) according to any one of the preceding claims, wherein the blank (100) further comprises a closing wall panel (117) which comprises a first closing wall panel portion (117a) and a second closing wall panel portion (117b), the first closing wall panel portion (117a) being foldably connected to a first longitudinal side (LSL21) of the second lid panel (109b), wherein the second closing wall panel portion (117b) is connected to the first closing wall panel (117a) via one or more perforation lines (118a-b), wherein preferably the closing wall panel (117) further comprises an intermediate closing wall panel portion (117c) arranged between the first and second closing wall panel portions (117a, 117b) and connected to the first and second closing wall panel portions (117a, 117b) via a respective perforation line (118a-b).
13. The blank (100) according to any one of the claims 6-11,

wherein the first locking flap (111), and the second locking flap (112), if present, is foldably connected to the second lid panel (109b) about a respective first fold line (127),
wherein the second lid end wall panel (113b), and the fourth lid end wall panel (113d), if present, is foldably connected to the second lid panel (109b) about a respective second fold line (128),
wherein the first and second fold lines (127, 128) are arranged at a distance (d) from each other as seen in the longitudinal direction (L) such that the respective locking flap (111, 112) is configured to be inserted in the respective recess (121, 122) of the respective intermediate side wall panel (106c, 107c) and between the first and second side wall panels (106a-b, 107a-b) forming the respective double-walled side wall (206, 207), and such that the second lid end wall panel (113b), and the fourth lid end wall panel (113d), if present, is configured to be inserted on an inside surface (206b, 207b) of the respective double-walled side wall (206, 207).
14. The blank (100) according to any one of the preceding claims, wherein the blank (100) is made of paper-based material.
15. A package (200) formed from a blank (100) according to any one of the preceding claims, wherein

the bottom panel (102) forms a bottom (202) of the package (200);
the front panel (104) forms a front wall (204) of the package (200);
the first and second side wall panel (106a-b, 107a-b) of respective set of side wall panels (106, 107) are folded relative to each other and relative to the bottom panel (102) to form the respective double-walled side wall (206, 207) of the package (200);
the rear wall panel (108) is folded in relation to the bottom panel (102) such that the rear wall panel (108) forms a rear wall (208) of the package (200);
the lid (109) is folded in relation to the rear wall panel (108) such that the lid (109) forms a lid (209) of the package (200); and
the locking flap (111) is folded in relation to the second lid panel (109b) and is inserted in the recess (121) of the intermediate side wall panel (106c) and between the first and second side wall panels (106a-b) forming the double-walled side wall (206),
wherein, when the blank (100) has been folded into the package (200), and an opening action by folding the lid (109) about the first longitudinal side (LSR1) of the rear wall (208) is initiated, the locking tongue (111b) interacts with an inner surface (106ci) of the intermediate side wall panel (106c) in a vicinity of the recess (121), and
wherein, when the blank (100) has been folded into the package (200), and an opening action by folding the second lid panel (109b) about the internal fold line (110) is initiated, the folding of the second lid panel (109b) about the internal fold line (110) releases the locking tongue (111b) from the recess (121).

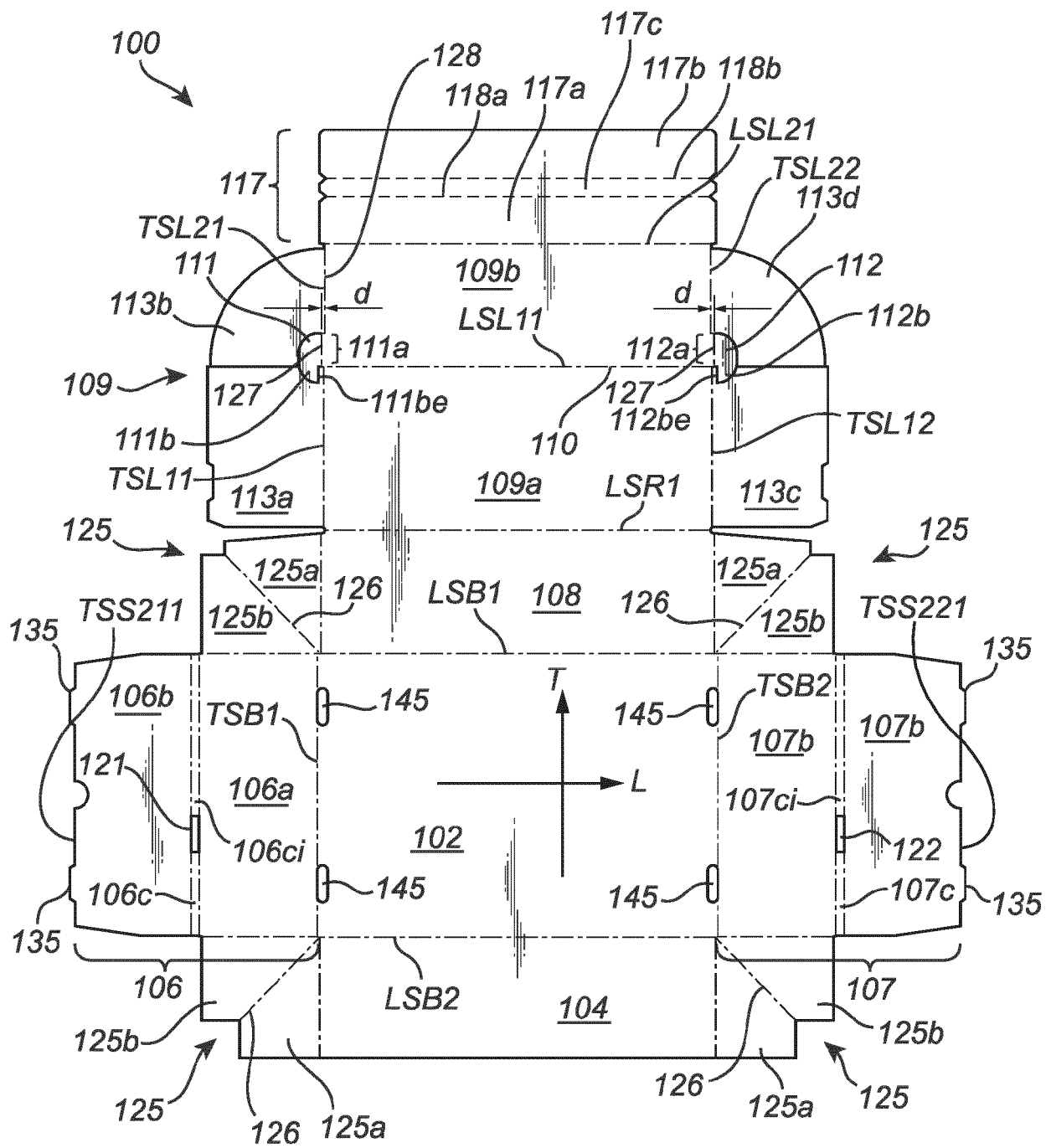
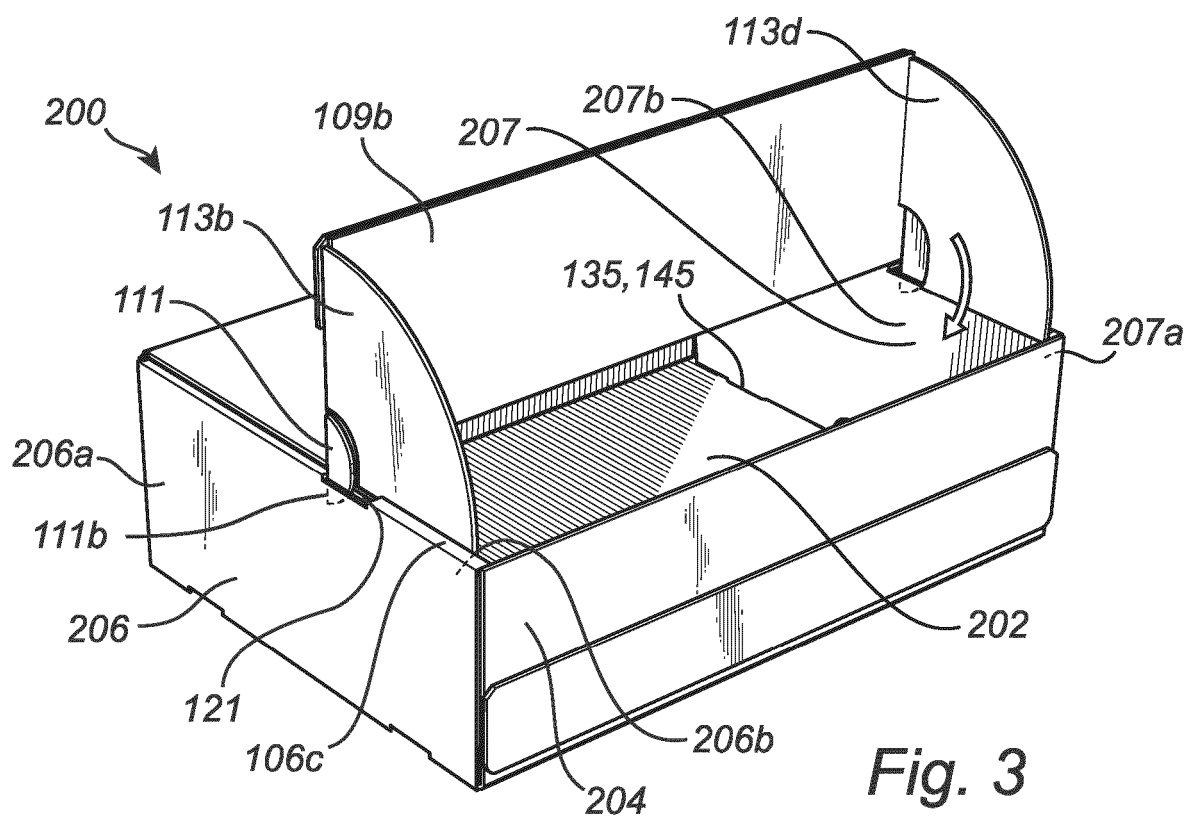
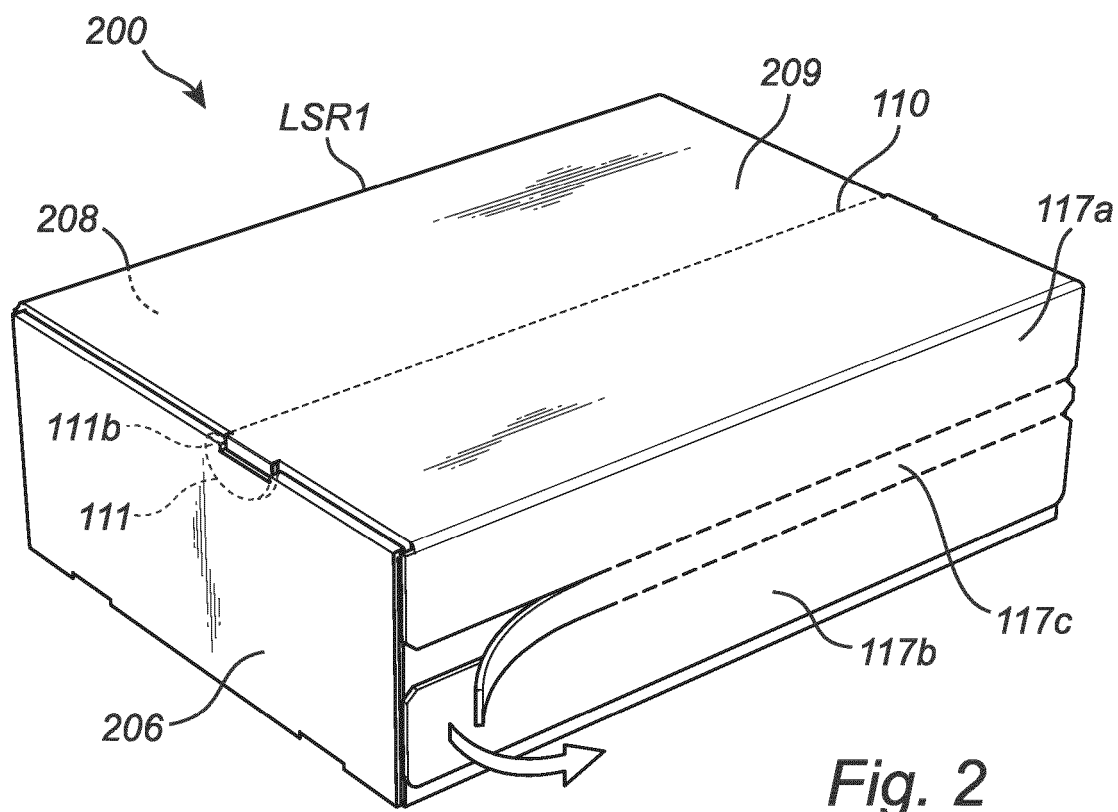


Fig. 1



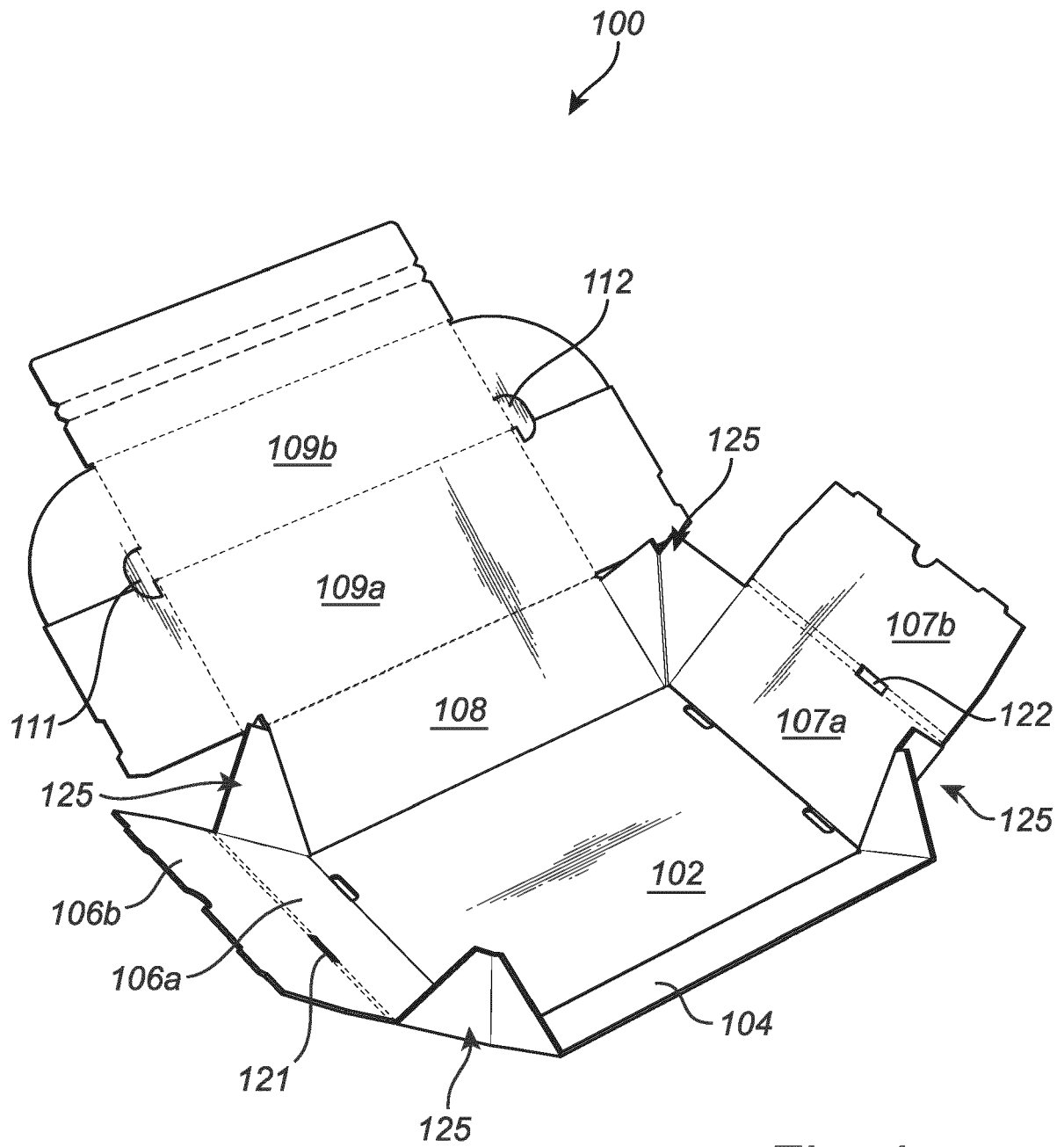


Fig. 4



EUROPEAN SEARCH REPORT

Application Number

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A	US 2 319 919 A (CLARK LYNN J) 25 May 1943 (1943-05-25) * figures 1-3 * -----	1, 6-8, 10, 13-15	
A	FR 3 122 864 A1 (SMURFIT KAPPA FRANCE [FR]) 18 November 2022 (2022-11-18) * figures 1, 5 * -----	1, 6-8, 10, 13-15	
			TECHNICAL FIELDS SEARCHED (IPC) B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 9 August 2023	Examiner Balz, Oliver
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	

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ON EUROPEAN PATENT APPLICATION NO.

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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
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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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