Aseptic liquid packaging container with reclosable opening member.

The invention relates to a single piece reclosable opening member (10) for pouring liquids from packaging containers. In particular, the invention relates to reclosable opening members (10) which have a lid (18) for reclosure and which are initially opened by pulling up the lid (18). In a preferred embodiment the pulling-up motion of the lid (18) actuates opening of a designated opening aperture (38) in the container. This is achieved by pushing down the material of the designated opening aperture (38) into the container, thereby separating it from the container and lifting it out of the container when pulling up the lid (18). This preferred embodiment achieves initial opening in one single motion. In a second aspect the present invention relates to the above described opening member in combination with an aseptic laminate container having a designated opening aperture.
Field of the invention

The present invention relates to a single piece reclosable opening member for pouring liquids from packaging containers. In particular, the invention relates to reclosable opening members which have a lid for reclosure and which are initially opened by pulling up the lid. In a preferred embodiment the pulling-up motion of the lid actuates opening of a designated opening aperture in the container. This is achieved by pushing down the material of the designated opening aperture into the container, thereby separating it from the container and lifting it out of the container when pulling up the lid. This preferred embodiment achieves initial opening in one single motion.

In a second aspect the present invention relates to the above described opening member in combination with an aseptic laminate container having a designated opening aperture which is provided by substantially weakening the laminate material around the circumference of the designated opening aperture. This weakening can be achieved by eliminating or cutting of the structural stability layer which is usually sandwiched between two barrier layers to form a liquid tight laminate material for liquid packaging containers. The opening member in combination with an aseptic laminate container is particularly useful for packaging non-carbonated beverages including milk, fruit juices, nectars or fruit juice drinks.

Background of the invention

Opening devices for disposable packaging containers for liquids are well known and have been developed over a long period. For example, DE 2232799 discloses so called gable top cartons as packaging for liquids. The opening is provided by tearing off one side of the top of the gable, thereby creating a pouring spout. This package does not provide reclosure and requires considerable strength or a cutting tool for opening. DE 2407345 discloses flat top packaging for liquids. The opening is a hole, cut out of the flat top which is sealed with a plastic film before filling of the carton. The plastic film is laminated onto the outside of the package and drawn into the hole. Thereby the plastic film seals the side walls of the laminate material. The plastic film can also be used as a reclosing device, however, only with limited re-sealing function after initial opening. If this opening is provided as a two piece system, the plastic film also has to be disposed of, which in general is negatively registered by the user of such packaging containers.

DE 2520569, DE 2706735, DE 2758092 all disclose improvements to opening designs for packaging made of laminated carton. Partial cutting (half-depth or dashed cutting) of the laminate for easier tearing when opening a package, as well as complex pouring spout constructions are disclosed. Multiple tape closures, for sealing the apertures in such a laminate material, provide initial closure. However, they lack the desired reclosability.

DE 2659275 discloses the problem of sterile packaging and the aesthetic issue if laminate material which comprises a layer of fibrous material (like paper or carton), which softens when being exposed to humidity, is used. As a solution DE 2659275 suggests to cut an aperture which is larger than the designed opening for the container into the material, then laminate a film from both sides over the opening. Thereby the fibrous material is fully covered in non-absorbent, humidity insensitive material like polyethylene film. Since this technology was first developed for holes to be punctured by drinking straws, it is hereinafter referred to as straw-hole technology. Straw-hole technology on its own does not provide reclosability or a package without disposable opening tapes or without other pieces which need to be discarded by the user contrary to the present invention. Application of the straw-hole technology is technically not limited to round holes but could be provided as lines or strips.

DE 3513976 addresses the problem of an aperture in laminate material which has no exposed fibrous materials. The disclosure suggests a multiple layered closure with several sealing points between the additionally introduced layers and the laminate adjacent to the aperture. The aperture itself is simply punched through the laminate.

DE 3908393 provides a reclosable opening device which is applicable to aseptic packaging and using the straw-hole technology to prevent humidity build-up in the fibrous structure of the laminate. The opening device is provided as a single piece. However, a distance ring is removed from the opening device upon initial opening and remains permanently separated from the packaging. It thereby foresees the advantage of being a single piece opening device and requires two distinctly different actions to open the container. Further, this design has the drawback that the construction height in its unopened state creates problems when packages are stacked onto each other.

EP-A 167095 discloses a sealed gable top carton having a reclosable opening and pouring spout which is provided as a single piece. The opening device is sealed to the sloped side of the gable top covering a cut away aperture in the carton laminate material. It thereby does not allow separate sterilizing treatment of the opening device and the laminate material. Also the danger of pocket building and security of reclosure is not properly
addressed by this design. Furthermore, in order to provide sufficient stability against accidental opening, the lid must be strongly attached to the mouth piece. Therefore the initial opening will require substantial force which can lead to spilling and is not convenient for the end user.


None of the aforementioned packaging containers provides all advantages desired by consumers of such packaging containers. As shown, the available packaging either lacks compatibility with modern aseptic packaging requirements, has no or only dissatisfactory pouring or even dripping, does not provide tight reclosing which would allow to shake the content of such a packaging container or leaves the user of such packaging with the requirement to dispose of a piece of material which has to be removed from the opening member upon initial use.

It is therefore an objective of the present invention to provide the following advantages and combine some characteristics of which some had been satisfied individually by previous container designs but not in the present combination. It is desired to provide a convenient opening member for a liquid packaging container made of laminate material such that the inside surface of the container can easily be sterilized by having an uninterrupted and pocket free layer forming the inside surface at least around the designated opening aperture. Also the opening member should provide a drip free or drip reducing pouring spout, preferably one which directs fluid remaining on the spout back into the container when bringing the container into an upright position. Further, the opening member should provide convenient and easy handling when initially opening the container while preventing unintentional opening during transport and handling. Also it is desired to have a pilfer or tamper indicator, however without adding a piece of material which has to be removed upon initial opening and would have to be disposed of by the user. Primarily, however, the opening member for a liquid packaging container has to be a single piece reclosable opening member which preferably can be opened in a single move and is capable of providing and maintaining an unobstructed and preferably hygienic opening over an extended period despite being exposed to liquid or humidity and without losing the laminate of the designated opening aperture into the container.

These and other objectives of the present invention will be more readily apparent when consid-

5 Summary of the invention

The invention relates to a single piece reclosable opening member and in another aspect to a liquid tight container comprising said reclosable opening member. The containers are made of a laminate material and are typically gable top or flat top containers, preferably of a parallelepiped form. The laminate material comprises two barrier layers on the outside and a structural stability layer between the barrier layers. Most commonly these containers are used for non-carbonated beverage drinks like fruit juices, nectars, fruit juice drinks or milk. They contain usually a family size serving and are kept for some time after opening since they contain more than a single serving quantity. There is also a tendency to increase the container volume to save packaging material for environmental and economical reasons.

The opening member has a pouring aperture and is placed on the upper side of a container such that the pouring aperture corresponds to a designated opening aperture in the container. The designated opening aperture is formed in the container laminate material by an endless weakening line around its circumference where the laminate material is designed to break upon initial opening of the container. This weakening line, regardless of how it is provided, is hereinafter termed designated breaking contour.

The designated breaking contour can have any shape which is desired and conforms to the circumference of the pouring aperture. The designated breaking contour can be provided by partial cutting or by straw-hole technology. In any case, the inside barrier layer forming the inside of the container should not be destroyed or punctured by the technology used for making the designated breaking contour.

According to the invention the opening member comprises a flange forming a pouring aperture preferably also comprising a pouring spout to direct liquid and to reduce dripping when pouring and to drain liquids off the spout back into the pouring aperture. The flange has a rim at its base extending outside the pouring aperture. The opening member further comprises a lid for closing the pouring aperture which is hinged to the opening member, preferably to the rim. The lid further comprises a plug which is permanently joined to the lid and has a bottom side. The bottom side extends from the lid into the pouring aperture when the lid is in a closed position such that the bottom side is in the same plane as the lower side of the rim.
While the lid remains in its closed position the bottom side of the plug is movable into the pouring aperture. The direction into the pouring aperture is opposite the flow direction through the pouring aperture.

This movability of the bottom side of the plug can be provided by elastic deformation of the plug or of the entire lid. Preferably, the plug and the lid are provided as separate elements which are joined to each other in the form of telescoping flanges that have interlocking opposing rims.

In another preferred embodiment of the present invention the lid of the opening member further comprises a lever which allows to push down the plug during initial opening in a single motion. The lever has a first and a second end. The second end of the lever forms the part of the lid which is opposite the side where the lid is hinged to the flange of the opening member. When pulling-up the lid, i.e. when pulling-up the second end of the lever, the first end of the lever moves down in order to initiate movement of the plug into the pouring aperture. The lever turns around an axis which preferably is defined by a crease in the lid. Except for the lever the lid remains in a closed position. This can be accomplished for example by external material bridges attaching the lid to the rim of the opening member such that simultaneously these material bridges provide pilfer and tamper indicators. During this part of the opening motion, the lid can also be held in place by internal material bridges or by other temporary mechanical restraints. Regardless of how the lid is held in place, it must allow in the second part of the opening motion to lift the lid easily off the pouring aperture.

In a second aspect, the present invention provides a reclosable liquid tight container having a designated opening aperture and comprising the opening member as described above. The opening member is attached to the outside of the laminate material of the upper side of the container with its pouring aperture corresponding to the designated opening aperture such that the rim of the opening member is joined to the container along an endless liquid tight seal and the bottom of the plug is attached permanently to the laminate material inside the designated opening aperture. In a first motion when activating the opening member, the plug will push through the designated pouring aperture detaching a piece of laminate along the designated breaking contour while not losing the piece of laminate into the container. In the second part of the initial opening motion after breaking the pilfer and tamper indicators the lid will lift the plug including the detached laminate from the designated opening aperture out of the pouring aperture and provide easy access to the content of the container. Reclosability is achieved by simple returning of the lid into its original position. The tightness of the reclosure can be improved if the plug either is conical or has a protruding bulge around the side of the plug. When closing the lid the conus or the protruding bulge engage with the inside of the flange of the opening member.

Brief description of the drawings

If not noted otherwise the Figures are schematic representations distorting the relation of dimensions of particular features in order to provide clear representation and distinction of the technical features of the drawings. Comparisons of scale taken from schematic drawings are therefore not necessarily correct.

Figure 1 is a broken away perspective view of the laminate of a container adjacent the opening aperture in combination with a preferred embodiment of the opening member of the present invention.

Figure 2 is a cross-sectional view of the opening member and laminate material along line 2-2 of Figure 1 in its initial closed position.

Figure 3 is the same cross-sectional view as Figure 2 after the initial motion of the lever of the preferred embodiment of the opening member.

Figure 4 is the same cross-sectional as Figure 3 after the second part of the opening motion when the lid has lifted off the opening member.

Figures 5 and 6 are cross-sectional views of an alternative embodiment of the opening member according to the present invention, the opening member having a lever and an external turning axis in the closed position and after the initial motion of the lever, respectively.

Figure 7 is a cross-sectional view of another alternative embodiment of the opening member according to the present invention, not having a lever but having a flexibly movable plug.

Figure 8 is a cross-sectional view of a designated breaking contour made by straw-hole technology.

Figure 9 is a cross-sectional view of the designated breaking contour made by partial cut technology.

Detailed description of the invention and of the drawings

Figure 1 shows a preferred embodiment of the single piece reclosable opening member (10) joined to a laminate (30).

Figure 2, 3 and 4 show a schematic cross-sectional view of the preferred embodiment of the opening member of Figure 1 along line 2-2 at different operating situations. In Figure 2 the open-
The opening member (10) comprises a flange (12) which forms a pouring aperture (14) and has a rim (16). The rim (16) has a lower side (116) and extends outside the pouring aperture (14) from the flange (12). In a preferred embodiment the rim as shown has a rectangular shape with rounded edges, however other shapes for the rim (16) like an oval shape or a shape following the outline of the flange (12) can also be used. The lower side (116) of the rim (16) provides the contact area for joining the opening member (10) to the laminate (30) forming the upper side of a container.

The preferred embodiment of the opening member (10) as shown has a lid (18) which is hinged to the rim (16). The lid (18) could also be hinged to other parts of the opening member (10) for example the lid (18) could be directly hinged to the flange (12). In its closed position the lid (18) as shown in Figure 1 and 2 closes the pouring aperture (14).

The lid (18) comprises a plug (50) which extends into the pouring aperture when the lid (18) is closed as shown in Figure 2. In general the plug (50) has a bottom side (52) which is spaced from the lid such that it forms a single plane with the lower side (116) of the rim (16) when the lid (18) is closed. The plug (50) is permanently joined to the lid (18). In the preferred embodiment of Figure 2 the plug (50) is joined to the lid (18) by a telescoping flange (54) of the plug (50) having an inwardly extending rim (56) at the end of the flange (54) opposite the bottom side (52) of the plug (50). The lid comprises also a flange (19) which is reaching into the tubus formed by the flange (54) of the plug (50) having an external rim (21) which provides together with the inwardly extending rim (56) a permanent but movable securement between the plug (50) and the lid (18).

As indicated above the lid (18) according to the invention provides the opening member (10) with reclosability. The tightness of the closure of the lid (18) can be further improved by having the plug (50) extend tightly into the pouring aperture (14) when the lid (18) is in its reclosed position. Not shown in the Figures but preferably also included, is a protruding bulge on the outside of the flange (54) of the plug (50) or a conical shape of the flange (54) to improve the tightness of the reclosure of the opening member (10).

The opening member (10) preferably also has a pouring spout (24). The pouring spout (24) is preferably at the opposite end of the pouring aperture (14) from where the lid (18) is hinged to the opening member (10). Most preferred are pouring spouts (24) which provide not only direction to liquids coming from the pouring aperture (14) for pouring but which extend beyond the outer perimeter of the rim (16) to guide liquids clear of the rim (16). Most advantageous are pouring spouts (24) which are also angled such that liquid which remains on the pouring spout (24) is drained back through the pouring aperture (14).

In the preferred embodiment of Figures 1 through 4, the lid (18) of the opening member (10) further comprises a lever (20). The lever (20) has a first end (23) and a second end (25) and a turning axis (26). As shown in the preferred embodiment the lever is an integral piece of the lid (18) of the opening member (10) having a manipulating aperture at the second end (25) of the lever (20).

When initially opening the opening member (10) the second end (25) forming the front end of the lid (18) is lifted and turned around the axis (26) thereby moving the first end (23) downwards and pressing the plug (50) below the plane of the lower side (116) of the rim (16).

The axis (26) of the lever is formed in the lid (18) of the opening member (10) preferably by a crease in the lid material. However, any other useful hinged attachment of the lever along the axis (26) known in the art can be employed. In order to keep the lid (18) in its closed position during the first part of the opening motion and while pressing the plug (50) down by manipulating the lever (20), the lid (18) between the axis (26) and that end of the lid which is hinged to the opening member must be held in its closed position. This can be accomplished for example by external material bridges (27) attaching the lid (18) to the rim (16) of the opening member (10). These material bridges (27) additionally provide indication of pilfering or tampering with the opening member. Alternatively, the lid (18) between the axis (26) and its hinged end can be held in place by internal material bridges or by any other temporary mechanical restraints like for example a snap lock. An example of a snap lock which is used to hold the second end (25) of the lever (20) down by engaging with the pouring spout (24) is shown in Figure 2. Regardless of how the lid (18) is held in place it must allow in the second part of the opening motion to lift the lid (18) easily off the pouring aperture (14).

In a second part of the initial opening motion of the opening member (10) the lid (18) is lifted off the flange (12) thereby destroying internal or external pilfer and tamper indicators and the plug (50) is pulled out of the pouring aperture (14) thereby providing an open and unobstructed pouring aperture (14).
Figure 5 shows an alternative embodiment of the opening member (10). This single piece opening member (10) utilizes the flexibility of plastic materials to deform without breaking. It comprises principally the same elements as the previously described opening member, however the axis (26) of the lever (20) in this embodiment has moved forward away from the hinge between the lid (18) and the opening member (10). The plug is extending as an integral piece of the lid downward into the pouring aperture (14) without having a telescoping flange attachment. When lifting the second end (25) of the lever (20), the first end (23) which is directly connected to the flange of the plug (50) moves downward providing the plug (50) with a downward motion according to the invention. Figure 6 shows this alternative embodiment of the opening member (10) after the lever (20) has been lifted at its second end (25) and the plug (50) has moved downwards. In this embodiment of the opening member (10) the plug (50) is formed as a tubular depression in the lid (18).

Figure 7 shows another alternative embodiment of the present invention not using a lever. In this embodiment the user of the opening member (10) needs to press the plug (50) manually downward in order to provide the required downward motion of the plug and then lift the lid (18) to open the pouring aperture (14). This embodiment of the opening member (10) is however less preferred than the previously described embodiments of the opening member (10) since it requires two separate steps for the user of the opening member.

Typically the opening member is made of plastic material. Preferably it is made of polyethylene, polypropylene, polystyrol or mixtures thereof. It can be produced by any manufacturing technique usually used in the art. Preferably it is made by injection molding as a single piece, or in case of the preferred embodiment of Figures 1-4 as two pieces which are permanently joined to form a single piece opening member. The plug material preferably exhibits an elastic flexibility to allow and accomodate turning and bending which is required for the snap lock at the pouring spout (24), the hinge of the lid (18) or the turning (26) of the lever (20) around the axis (26).

In a second aspect the present invention provides a reclosable liquid tight container comprising an opening member as described above.

The liquid tight containers of the present invention are made of laminate material. The laminate material comprises two barrier layers and a structural stability layer sandwiched between the barrier layers. The barrier layer forming the outside surface of the container, has the function of providing protection of the container against humidity and contamination from the container's environment. It preferably consists of one or several plies of plastic film, for example polyethylene, providing a liquid barrier and being weldable and compatible with many adhesives, particularly hotmelt adhesives.

The barrier layer forming the inside surface of the container has the function of protecting and containing the liquid inside the container as well as protecting the structural stability layer from exposure to the liquid contents of the container. Preferably, it also comprises one or several plies of plastic film, for example polyethylene. Additionally it may comprise a ply of gas tight material for example an aluminum foil which prevents in particular oxygen migrating into the container.

The structural stability layer is sandwiched between the barrier layers together with any other additional layers which may be desired. The structural stability layer provides the laminate with the structural stability allowing to form self supporting containers with it. Most commonly used materials for the structural stability layer are paper or cardboard plys which themselves may be sandwiched together forming the structural stability layer.

The laminate is formed in lamination processes well known in the art. Typically the two barrier layers and the structural stability layer are sandwiched together while applying high pressure and heat thereby forming an intimate bond between the layer interfaces. Bonding materials, if used at all, can be selected from a wide range of pressure sensitive, heat sensitive, hot melt type adhesives and other bonding agents.

The stability of the structural stability layer against internal delamination is usually small. Particularly when the structural stability layer is made of fibrous material like paper or cardboard, the opening tensile force perpendicular to the plane of the structural stability layer would delaminate this layer. Therefore it is not possible without special arrangements to prevent internal delamination of the structural stability layer if a pull-out opening in the laminate material is desired. To provide alternatively an area without the structural stability layer in order to create a designated opening aperture in the laminate material is also technically unattractive since it creates a weak area in the overall laminate material thereby requiring special handling when producing, sterilizing and handling a container.

According to the present invention, the container is made of laminate material. It preferably is made out of a single piece of laminate material which is cut and folded together so as to form either a gable top container or preferably a container resembling a parallelepiped. The important characteristic of the container is that it provides secure and hygienic containment for liquid products like non carbonated beverages. The container has an upper side which in the case of a
gable top container is tilted and in case of a parallelepiped is a flat horizontal surface.

According to the invention this upper side comprises an opening member as described above. The opening member (10) is permanently joined to the outside of the laminate of the upperside of the container by an endless, liquid tight seal around the rim (16). The plug (50) is also permanently joined to the laminate, preferably the seal extends to the bottom side (52) of the plug (50) however, without the requirement to be liquid tight. The rim (16) and the plug (50) can be joined to the laminate by any known technique but preferably use hot melt adhesive, welding or ultrasonic bonding.

The upper side of the container comprises a designated opening aperture (38) which is located in the laminate material. The designated opening aperture is defined by an endless container which is designated to break upon initial opening of the contour. The designated breaking contour is formed by weakening the laminate material without destroying or puncturing the barrier layer forming the inside of the container along the designated breaking contour.

The designated breaking contour as indicated in Figure 8 can be formed by straw-hole technology, that is by removing the structural stability layer (36) and laminating the two barrier layers (32,34) to each other through the removed structural stability layer (36). Small material bridges holding the structural stability layer inside the designated breaking contour in place until lamination of the barrier layers (32,34), represent no deviation from the principally preferred straw-hole technology for its hygienic appearance.

Alternatively the designated breaking contour can also be formed as indicated in Figure 9 by partial cut technology. Partial cut technology provides cuts into the laminate (30) which do not extend through the full thickness of the laminate (30) and therefore maintain the integrity of the inner barrier layer (34).

The shape of the pouring aperture (14) and the designated opening aperture (38) is not limited to the shape shown in the drawings. Both apertures independently can be selected from round, oval, rectangular and triangular shapes or any other desired shape useful in providing the desired function in particular including conically extending oval shapes.

It is of course preferred that the opening aperture (38) has the same or a similar shape and size as the pouring aperture (14) of the opening member (10). According to the invention the opening member (10) is disposed on the laminate material (30) such that the pouring aperture (14) of opening member (10) corresponds to the opening aperture (38) in the laminate material (30).

A container according to the invention comprises the opening aperture (38) preferably at the edge of its upper side so that the pouring spout (24) reaches all the way to or even beyond the edge of the upper side of such a container. During transportation the lid (18) is closed thereby also protecting the pouring aperture (14) and the pouring spout (24) for hygienic reasons.

While several particularly preferred embodiments of the present invention have been described and illustrated, it will be obvious to those skilled in the art that various changes and modifications can be made without departing from the invention. Furthermore, while the preceding description of the present invention was generally directed to a non-carbonated beverage, the present invention can be applied with equal facility to any type of product that is poured from a container. Accordingly, the following claims are intended to embrace such changes, modifications, and applications that are within the scope of this invention.

Claims

1. A reclosable opening member (10) comprising a) a continuous flange (12) forming a pouring aperture (14), said flange (12) having a rim (16) at the base (17), said rim (16) extending outside said pouring aperture (14) and having a lower side (116); and b) a lid (18) to close said pouring aperture (14) when assuming a closed position and being hinged to said opening member (10); said opening member (10) being characterized in that

- said lid (18) comprises a plug (50) having a bottom side (52) extending from said lid (18) into said pouring aperture (14), said bottom side (52) being in the same plane with said lower side (116) of said rim (16) while said lid (18) is in said closed position;
- said plug (50) being permanently joined to said lid (18); and
- the bottom side (52) of said plug (50) being movable into said pouring aperture (14) while said lid (18) remains in said closed position.

2. A reclosable opening member (10) according to claim 1 characterized in that said plug (50) and said lid (18) are provided as separate elements which are joined in the form of telescoping flanges (19,54) having interlocking opposing rims (21,56).

3. A reclosable opening member (10) according to any of the preceding claims characterized in
that said lid (18) comprises an opening lever (20) opposite the side where said lid (18) is hinged to said flange (12), said opening lever (20) being joined to said lid (18) along an axis so that a first end (23) of said lever (20) moves said plug (50) into said pouring aperture (14) during opening said lid (18) by lifting a second end (25) of said lever (20).

4. A reclosable opening member (10) according to any of the preceding claims characterized in that said plug (50) has the same shape as said pouring aperture (14) and is substantially co-extensive with said pouring aperture (14).

5. A reclosable opening member (10) according to any of the preceding claims characterized in that said opening member (10) further comprises a pouring spout (24), said pouring spout (24) preferably extending from said flange (12) beyond the edge of said rim (16) and being angled to guide liquid back into said pouring aperture (14).

6. A reclosable opening member (10) according to any of the preceding claims characterized in that said opening member (10) is made of polyethylene, polypropylene, polystyrene or mixtures thereof.

7. A reclosable liquid tight container having an upper side and being made of a laminate material (30), said laminate material (30) comprising a designated opening aperture (38) which is opened by removing the laminate (30) in said designated opening aperture (38) from said upper side upon initial opening of said container, characterized in that it further comprises any of the opening members (10) of claims 1 to 6, and that
   a) said designated opening member is disposed to correspond to said opening aperture (38) and joined to the outside of said container by an endless liquid tight seal along said rim (16), and
   b) said bottom (52) of said plug (50) is attached to said laminate material (30) in said designated opening aperture (38).

8. A reclosable liquid tight container according to claim 7 characterized in that said container is a parallelepiped.

9. A reclosable liquid tight container according to claim 7 or 8 characterized in that said endless liquid tight seal and said attachment between said plug (50) and said laminate material (30) is provided by hotmelt adhesive, welding or combinations thereof.

10. A reclosable liquid tight container according to claim 7 or 8 or 9 characterized in that said laminate material (30) comprises an outer liquid tight barrier layer (32) laminated to a structural stability layer (36), preferably made of paper or cardboard, laminated to a gas and/or liquid tight barrier layer (34).
## DOCUMENTS CONSIDERED TO BE RELEVANT

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<tr>
<th>Category</th>
<th>Citation of document with indication, where appropriate, of relevant passages</th>
<th>Relevant to claim</th>
<th>CLASSIFICATION OF THE APPLICATION (Int. Cls.)</th>
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<tr>
<td>Y</td>
<td>EP-A-0 444 862 (JUJO PAPER CO. LTD.)</td>
<td>1,4,5, 7-10</td>
<td>B65D5/72</td>
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### TECHNICAL FIELDS SEARCHED (Int. Cls.)

- B65D

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The present search report has been drawn up for all claims

**THE HAGUE**

Date of completion of the search: 23 MARCH 1993

Examiner: BERRINGTON N.M.

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### CATEGORY OF CITED DOCUMENTS

- **X**: particularly relevant if taken alone
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