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3,423,004

PACKAGE WITH HINGED LID

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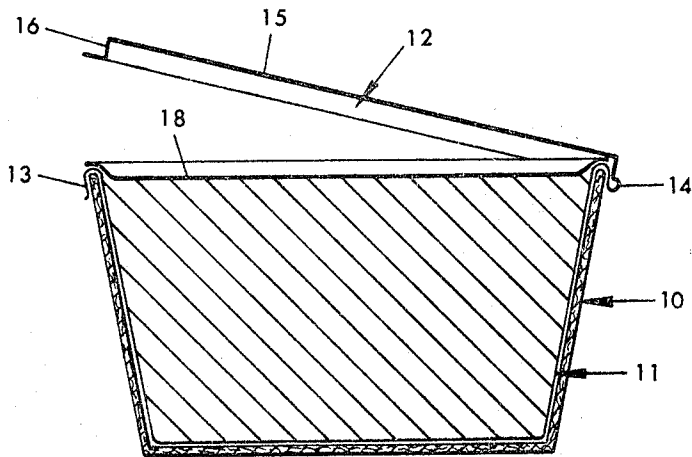


FIG. 1

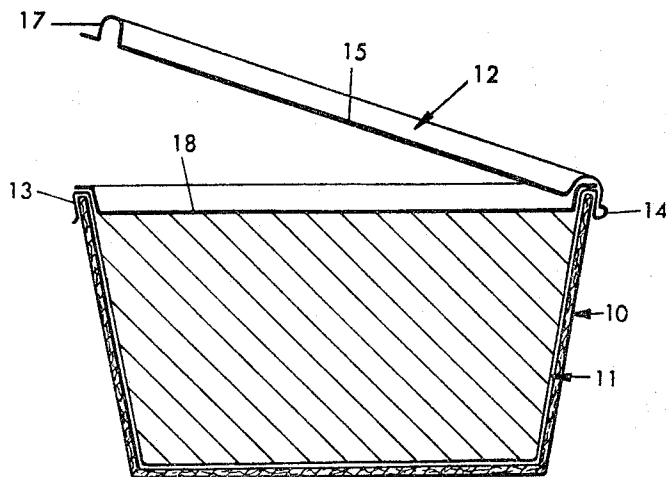


FIG. 2

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PACKAGE WITH HINGED LID

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8 Claims

ABSTRACT OF THE DISCLOSURE

A reclosable, hinged-lid package having an outer layer of relatively stiff material and an air-tight inner liner. The lid is an integral part of the inner liner and is connected thereto by a hinge joint along an edge of the package for permitting movement of the lid to open and close the package.

The present invention refers to an outer package of cardboard or any similar stiff material with an inner package mounted therein, said inner package being made of a thinner, liquid and gas tight material, as well as provided with a tightly closing, hinged and reclosable lid.

The package according to the invention is especially adapted for packing foodstuffs and other products having a tendency of getting dry or being affected by influence of the atmosphere.

As an example on products of the kind mentioned above there may especially be referred to soft cheeses, molten cheeses, whey-butter, marmelade, jam, mush, pastes and many other products within the food business field but the package is as well useable for packing industrial or medical products such as glue, paste, dye, varnishes, laquers, unguents, pills, and powders of different kinds and many other things.

Packages for the products concerned have hitherto usually been produced from pulp or cardboard, which, after it has been given its final form, has been sprayed or in any other way provided with a cover of plastics or a wax, or has been provided with an inner package or a liner, applied inside of the stiff outer covering, and being made from plastics, waxed paper, metal foil or the like. The lid has sometimes been made in one piece with the cover, but in most cases these packages were provided with a separate lid.

If the lid has been made in one piece with the liner, the package is opened by said lid being raised and eventually being torn away from the remaining parts of the cover, the inner package or the liner thereafter being cut up for making at least part of its contents available. Normally, there was thereafter no possibility to protect the uncovered part of the contents against the effect of the atmosphere, which may cause its drying or damage thereof, because the lid is not tight against the inner package. The packed product therefore had to be consumed within a shorter period of time than would otherwise be required, because otherwise it should be damaged.

If the package is provided with a freely mounted, reclosable lid, this is opened by the lid being cut or broken away or being released in any other way from the remaining part of the package, the sealing usually existing thereby being broken up. The sealing may be in the form of a glue joint or a wax joint or a plastics joint between the inner edges of the lid and the outer edges of the remainder of the package, or it may consist in a sealing tape of plastics, paper or other material, running around the circumference of the package, said tape being attached to the lid as well as to the outer sides of the package. In this way a tight joint is provided between

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the container and the lid, which will normally exclude the atmosphere from the interior of the package, until the seal is broken.

Once the seal has been broken, the lid will no longer close tightly against the container part, but the contents will run a risk of getting dry or being damaged in any other way due to the influence of the atmosphere. Further it happens rather often that, in such packages the lid is lost or that it is not, for one reason or another, remounted again on the container, a quicker drying of the contents then taking place than would otherwise be necessary.

The present invention has for its purpose to eliminate these disadvantages and to provide a package comprising an outer cover of cardboard or any similar stiff material with an inner package mounted therein and made of a thinner, liquid-tight and also gas-tight material, and a lid which is capable of being reclosed tightly.

According to the invention, the lid, which is also made from a liquid-tight and eventually also gas-tight material, is hinged to the inner package along a straight edge thereof by means of hinges, and is arranged, in its closed position, tightly to contact part of the inner package.

The invention will now be further described in connection with some forms of execution shown on the drawings but it is understood that the invention shall not be limited to the forms of execution shown in the drawings but that all different kinds of modifications may occur within the scope of the invention.

In the drawings, FIG. 1 shows a cross section through a filled package according to the invention with the lid in part raised, and FIG. 2 shows a cross section through a modified form of execution of the package according to FIG. 1, also with the lid raised up somewhat.

The package comprises an outer layer, or package 10 and an inner liner or package 11, with which there is permanently combined a lid along a straight edge of said inner package.

The outer package 10 may be produced from any suitable material having a stiffness and a rigidity, required for the purpose. In a preferred form of execution of the invention, cardboard of a given strength and thickness is used, from which the outer package is cut in the form of one piece which is joined together into an outer cover of rectangular base surface and upwardly slightly diverging side pieces. Thereby, the edge line between the base and the side pieces will comprise a number of small air slots through which air may be evacuated when putting down the inner package 11 into the outer package 10 or at the forming of the inner package directly within the outer package.

The inner package 11 should have a form which closely approaches the interior of the outer package 10 and the form should be such that the inner package is bent around the upper edges of the outer package and runs somewhat downwardly along its outer surface. Thereby, the inner package 11 will form a U-shaped flange turned upside down, 13, which receives in its U-formed part a small part of the side pieces of the outer package 10. Due to the outwardly diverging form of the package, the flange will under tension press the outer package and the inner package together against each other.

Along a preferably longitudinal outer part of the U-formed flange 13, the lid 12 is attached to the inner package 11. This outer part of the flange 13 thereby turns over directly into the lid 12 via a substantially cylindrical part 14, below referred to as the hinge part. This hinge part 14 has to be made from some elastically resilient material, such as some suitable plastics, in order to afford a greater number of opening and closing movements without being broken away from the inner package 11.

The lid 12 is made with a top part 15 and a flange running around this top part, said flange being numbered 16 and being adapted to contact the flange 13 of the outer part of inner package 11, when the lid is closed, and to run substantially an equal length downwardly along the exterior of the package as the flange 13 of the inner package.

In the form of execution of the invention now described, the lid 12 was produced from the same material as, and in one piece with the inner package 11. This material was a plastics suitable for so called deep drawing, which comprises good fluid tight properties and which is elastic to such an extent that it will allow for a great number of openings and reclosings of the lid 12 without being broken away from the flange 13 of the inner package 11 at the hinge part 14.

In an especially suitable method for the production of the package concerned, the inner package 11 is directly deep drawn in the outer package 10 by means of vacuum, acting on the outer side of the outer package 10. This will give the advantage that no human hand will have to touch the interior of the inner package before its filling and closing, and therefore an extremely sterile package can be obtained, which is of great importance in packing food-stuffs, medical preparations and so on, and also the advantage will be obtained that the inner package adapts to the manifold unevennesses in the interior of the outer package and will thereby obtain a very good attachment to the outer package.

In the modified form of execution of the invention, which is shown in FIG. 2, the lid 12 is provided with an even top part 15 and a U-formed flange turned upside down and running around said top part, said flange being arranged to contact tightly and under tension not only the outer part of the U-formed flange 13 running downwardly along the exterior of the outer package 10, but also part of the interior of the inner package 11. In the closed position, thereby, the flange 17 of the lid 12 will pinch around the U-formed flange 13 of the inner package 11 and cause a fixture of the lid on the container part, which is more reliable than the one according to the earlier described form of execution, and also an improved tightness due to the greater contact surface between the lid and the inner package.

After the production of the outer package 10 and the insertion or the deep drawing, respectively, of the inner package 11 in same, the package is filled and is, before the closing of the lid 12, provided with a protective foil 18 of such a magnitude, that it will cover the packed product and the upper edges of the inner package in order thereby to provide an additional protection against air entering during transportation and storing. This foil may be of plastics, aluminium or the like.

If the packed product is more or less sensitive to light, the outer package 10 is preferably manufactured from some light protective material and the foil covering and protecting the product is made from some material, which is not transparent to light.

After the package has thus been provided with the pro-

tective foil 18, the lid 12 is pressed down so that its flange 16 or 17 will grip in with flange 13 of the inner package 11, and thereafter the package is ready to be delivered to the retailer or to the consumer. The package thus produced, can, due to its fluid tight structure be stored during long periods of time without its contents being destroyed, also after the initial seal has been opened.

I claim:

1. A package comprising an outer layer of a relatively stiff material and a thinner inner liner mounted therein, said inner liner being of a substantially airtight and liquid-tight material and including a reclosable lid for tightly closing the package; the improvement wherein the said lid, which is also of a substantially liquid-tight and airtight material, is connected to the inner liner along a substantially straight edge of the liner and forms a hinge joint therewith such that the lid, in its closed position, fits tightly against and seals the inner liner.

2. A package according to claim 1 in which the package has outwardly diverging side surfaces.

3. A package according to claim 1 in which the inner liner is provided, at its upper part, with a U-formed flange which runs around the upper edges of the outer layer and downwardly along its outer side.

4. A package according to claim 1, in which the lid and the said hinge joint are made in one piece with and of the same material as the inner liner.

5. A package according to claim 1, in which the hinge joint is substantially cylindrical.

6. A package according to claim 1, in which the inner liner, the lid, and the hinge joint are made from a plastic material.

7. A package according to claim 1, in which the lid comprises a level top part and a flange running about the periphery thereof, said flange being constructed such that when the lid is closed, it will contact the part of the flange of the inner package running downwardly along the exterior of the package tightly and under tension.

8. A package according to claim 7, in which the flange of the lid is U-formed and arranged also to contact under tension part of the inner liner running along the interior of the package.

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