Title: FOODSTUFF CONTAINER AND METHOD OF PREPARING FOODSTUFFS THEREFORE

Abstract:
The invention relates to a retail pack and container therefore, for containing first and second types of foodstuff. The container is formed of initially separate parts and this allows differing preparation steps to be performed on the foodstuffs in the different parts of the container as required, prior to bringing the parts together to form the container.
Title: FOODSTUFF CONTAINER AND METHOD OF PREPARING FOODSTUFFS THEREFORE

Abstract: The invention relates to a retail pack and container therefore, for containing first and second types of foodstuff. The container is formed of initially separate parts and this allows differing preparation steps to be performed on the foodstuffs in the different parts of the container as required, prior to bringing the parts together to form the container.
Foodstuff Container and method of preparing foodstuffs therefore

The invention to which this application relates is a container which can be used to contain, typically, at least two different foodstuffs to form a retail pack and allows the said retail pack to be displayed for purchase and subsequent consumption of the foodstuffs held therein.

The provision of foodstuffs in containers as retail packs is well known and is the standard procedure for selling many types of foodstuffs to consumers. The packaging is used to protect the foodstuffs and the packaging can be used to make the foodstuff appear more attractive and also provide information relating to the foodstuff for the consumer.

One increasingly popular type of packaging is that which contains two foodstuffs, typically as a dessert or snack and there is provided a plastics container formed with a first cavity in which a first type of foodstuff can be placed and a second cavity in which the second foodstuff can be placed. Typically, a seal such as a plastic or foil layer, is then applied over the openings into the cavities to seal the same and form the retail pack. Once opened, the user can select foodstuffs from each of the cavities or, alternatively, may empty the contents of one cavity into the other to combine the foodstuffs and then eat them.

Although these containers have been found to be successful, particularly for desserts in which, for example, one of the foodstuffs is a mousse, yogurt or the like, and the other foodstuff is a series of items, such as for example, chocolate or decorative items, a drawback is that the types of foodstuffs which can be held within the container is limited to those, which
can be chilled or can withstand chilling, prior to consumption. This therefore means that the lifespan of the retail pack in terms of by when it must be consumed or destroyed, is relatively limited. The reason for this limitation in the foodstuffs which can be used is that there is a tendency for migration of flavours between foodstuffs and also other foodstuffs have to be processed and hence held within the container under different conditions.

The aim of the present invention is to provide a container which allows at least two different foodstuffs to be held therein, and subsequently consumed singly or in combination. A further aim of the invention is to provide a method which allows the container to be used to hold foodstuffs which can be processed and prepared for consumption in differing ways prior to the formation of the container and/or prior to consumption.

In a first aspect of the invention, there is provided a pack comprising a container having a first part with a first cavity with a foodstuff held therein and at least a second part with a second cavity with a foodstuff held therein, wherein at least one of said foodstuffs is prepared separately to the other foodstuff, in its respective cavity, prior to the provision of both foodstuffs in the two part container.

Typically the said foodstuff is prepared separately prior to the parts in which the respective cavities are defined being joined together to form the container.

In one embodiment, the preparation which is performed, is the cooking or baking of the foodstuff held in said cavity.

In one embodiment, the respective foodstuffs can be placed in respective cavities, at differing locations and then the parts are
collated together to form a container in accordance with the invention.

In one embodiment, the first and second parts are joined together along adjacent edges thereof which are brought into an abutting or overlapping relationship.

In one embodiment, the engagement is achieved via overlapping portions of the respective adjacent edges of the first and second parts.

In one embodiment, the overlapping edges are joined together. In one embodiment a welding technique such as ultrasonic welding is used. In an alternative embodiment a mechanical join is created.

In one embodiment, the container incorporates at least one sealing layer which is positioned over the openings into the cavities to enclose the foodstuffs within the cavity and hence form the retail pack.

In one embodiment, the sealing layer is applied over the entire surface of the container in which the openings are formed. Alternatively, a sealing layer may be applied over the opening into the cavity in the first part and a second layer applied over the opening into the second part, prior to the parts being joined together.

In one embodiment, the portions of the respective parts which are joined together do not have a sealing layer applied thereto or alternatively, the same can have the sealing layer applied thereto and a seal can be formed through the same.
In a further aspect of the invention there is provided a foodstuff container formed from a plurality of plastics material parts, each of said parts having a cavity for the reception of a foodstuff therein and which foodstuff is sealed within the respective cavity by a sealing layer.

In a preferred embodiment, a line of weakening is provided which runs parallel with the adjacent edges of the respective parts such that once the parts are joined together, the line of weakening forms a hinge or break point, to allow the contents of one of the cavities to be emptied into the other of the cavities so that the foodstuffs can be consumed in combination.

There is provided a container for at least two different foodstuffs and wherein said container is storable for a predefined period of time of at least a number of weeks, in ambient conditions without adverse effect on the foodstuffs.

This container in accordance with the invention has a significant advantage over the prior art in that it allows a much wider range of foodstuff types to be provided within a 2-cavity container than is currently possible as, conventionally, foodstuffs which are held in this type of 2-cavity container, have to be stored in chilled conditions and as a result have a relatively short life span the foodstuff is before the foodstuff is adversely affected.

Typically the container comprises a plurality of parts each having at least one cavity for the reception of foodstuffs therein.

In one embodiment, the respective parts are filled with the respective foodstuffs and then the parts are joined together to form a container in accordance with the invention.
In one embodiment, at least one of the cavities is provided with a venting film layer which allows the cooking or baking of the foodstuffs held within the cavity.

In a further aspect of the invention, there is provided a method of forming a pack including a container having at least first and second foodstuffs in respective cavities of said container, said container formed from at least first and second parts, said method including the steps of placing a first foodstuff in a cavity of a first part, and a second foodstuff in a cavity of a second part, with the said first and second parts separate; preparing said foodstuffs, as required, into a condition for retail, wherein the respective parts are brought together and, joined to form the container.

In one embodiment at least one sealing layer is applied to enclose said cavities, said sealing layers applied either prior to joining the parts together to form the retail pack.

In one embodiment, the sealing layer is applied to each of the respective parts, prior to joining the same together.

In one embodiment, the respective parts are joined together by abutting or overlapping respective edges and using ultrasonic welding along said overlapping portions.

In an alternative embodiment, a lid is provided or other engagement means, which serves to engage both first and second parts together.

In one embodiment, the first and second parts are formed of a plastics material such as polypropylene or a microwavable polystyrene. If required, the said container parts may be formed respectively of different materials.
In one embodiment, the preparation which is performed on one of the foodstuffs, is a baking operation in which the foodstuff is wholly or at least partially baked within the cavity of one of the parts of the container prior to joining the parts together.

In one embodiment, when baking, the cavity in which the foodstuff is held, is sealed with a venting film which has a series of apertures which open during the baking process to allow CO₂ created during the baking process to be released from the cavity and expansion of the foodstuff such as a sponge, to occur.

In one embodiment, when cooling the said foodstuff, the initial cooling stage is controlled so as to close the apertures in the venting film prior to the second cooling stage which reduces the temperature more quickly. This therefore prevents the ingress of possible contaminants during the cooling stage which may occur if the apertures in the venting film are still open following the baking process.

In a further aspect of the invention, there is provided a retail pack container, said container having at least first and second cavities, said cavities having respective different foodstuffs held therein and wherein said foodstuffs are required to be processed into a condition for retail and/or consumption purposes and wherein differing processing methods are performed on the respective foodstuffs before the container is formed and/or after purchase of a container, and wherein the container is provided as separate parts prior to retail display and said parts can be selectively separated and/or moved for consumption of the foodstuffs following purchase of the retail pack.
The present invention therefore provides a two foodstuff container which, in addition to being separable into two parts after purchase, can also be provided as separate parts prior to forming the container therefore allowing differing preparation steps to be performed on the individual foodstuffs as required.

A specific embodiment of the invention is now described with reference to the accompanying drawings, wherein:

Figures 1 and 2 illustrate an elevation and plan view of the container in accordance with one embodiment of the invention; and

Figure 3 illustrates schematically, a method in accordance with the invention for forming the container.

Referring now to Figures 1 and 2, there is provided a container 2 in accordance with the invention, said container incorporating first and second parts 4, 6 and each of the parts having a cavity 8, 10 respectively. The openings into the cavity are enclosed by layers of sealing material 12, 14 respectively, which may be of foil or plastic and which are sealed to the lip 16 which surrounds the respective cavities. The provision of the sealing layer therefore allows the foodstuffs to be contained within the cavity and also reduces the possibility of contamination of the foodstuffs and/or improving the lifespan of the same.

The container is shown in a retail condition and sealing layers 12, 14, will typically include information and/or advertising relating to the foodstuffs within the container.

In this embodiment, the first and second parts 4, 6 are joined together to form the container at the interface 18. The interface is formed by overlapping portions 20, 22 of the
abutting edges of the respective parts 4 and 6. The overlapping portions are therefore brought together and in this case, ultrasonic welding is used along the overlapping portions to join the same. In addition, it is shown how the overlapping portions have respective lines of weakening 24 which individually, or in combination, allows the parts, once the retail container has been purchased, to be hinged about the line 24 or broken along line 24 so as to allow the contents of one of the parts, typically the cavity 10, to be emptied into cavity 8 and thereby allow the foodstuffs to be consumed in combination. As an alternative to the arrangement shown, the line of weakening 24 may be formed on one of the parts adjacent to the overlapping portions.

Thus, in accordance with the invention, there is provided a single container as a retail pack, which container comprises at least two foodstuffs therein. However, the container is formed of two parts which allow the respective foodstuffs to be prepared and processed separately and under differing conditions which is typically performed prior to joining the parts together to form the retail pack.

The ability to process the foodstuffs held within the respective parts separately, means that a greater range of foodstuffs can be provided in this form of container than is conventionally the case and, furthermore, that the foodstuffs can be processed in a manner which means that they, and the container, does not have to be stored in a chilled environment. This in turn means that the lifespan of the retail pack, can be significantly greater.

Furthermore, the ability to have separate sealing layers on separate parts of a container, allows a greater range of possibilities in terms of advertising, appearance and/or
information and furthermore, the container may be formed of parts which are of different colours or different transparencies.

The provision of the line of weakening 24 also allows the parts to be separated prior to consumption and, if required, the foodstuff in one of the parts can be heated or otherwise processed prior to consumption.

It should be appreciated that other alternative joining means can be used, such as for example, mechanical engagement may be provided particularly if there is a need to separate the parts of the retail pack, for separate processing of the foodstuffs after purchase and prior to consumption.

Figure 3 illustrates a method of forming the container in accordance with the invention.

At the top of Figure 3, there is shown two foodstuff processing lines 26, 28 which may be provided at the same geographical location or may be provided at different geographical locations as required. It will therefore be immediately appreciated that there is no longer the restriction of having to have all of the foodstuffs present for filling the container at the same location.

Referring firstly to processing line 26, the first stage 27 is for the part 6 to be filled with the particular foodstuff. In this case, the foodstuff may require to be pasteurised and any suitable preparation steps can be performed. The foodstuff is sealed 29 within the cavity 10 and the part 6 is then complete. The part can then be moved which may be from a different factory, to location 30.

Turning now to processing line 28, the part 4 is filled with the foodstuff required as indicated by step 32. In this case, a
sponge is to be formed in the cavity 8 and therefore a venting layer which is a layer of sheet material with apertures therein, is applied over the opening into the cavity 8. With the venting layer in position, the part 4 and hence foodstuff is baked as indicated by step 34. During the baking, the apertures in the venting layer open to allow carbon dioxide formed within the cavity to leave the cavity and allow the sponge mixture to rise and form the sponge. Typically, the product is then subject to controlled cooling in which a first cooling step provides a sufficiently slow reduction in temperature to allow the apertures in the venting layer to close. This prevents the ingress of contaminants into the sponge. Once the apertures have been allowed to close, the second cooling step may be performed which allows the more rapid cooling of the product. A sealing layer is then applied over cavity 8 at step 35 and, if required, the part 4 can then be transported to location 30. At location 30, there is therefore provided the first and second independent parts 4, 6. These parts need to be joined together and in accordance with one embodiment of the invention this is achieved by bringing abutting edges of respective parts 4 and 6 together in an overlapping relationship as indicated by step 36. Ultrasonic welding is then performed as indicated by step 38 to join the first and second parts 4 and 6 together and hence form the container to be sent out as a retail pack as indicated by step 40.

Thus, in accordance with the invention, there is provided a retail pack which can be used to contain a variety of foodstuffs which conventionally, would not be provided together such as for example sponge, jam, fruit, rice, custard and the like and furthermore to allow the same to be provided within the same container and stored at ambient conditions and have a stable, relatively long, shelf life. This is achieved by providing the container formed of at least two parts which can subsequently
be formed together once the initial foodstuffs have been prepared and indeed, if required, can be subsequently separated to allow further processing of the foodstuffs once purchased, and prior to consumption.
Claims

1. A pack comprising a container having a first part with a first cavity with a foodstuff held therein and at least a second part with a second cavity with a foodstuff held therein, wherein at least one of said foodstuffs is prepared separately to the other foodstuff, in its respective cavity, prior to the provision of both foodstuffs in the two part container.

2. A pack according to claim 1 wherein the said foodstuff is prepared separately prior to the parts in which the respective cavities are defined being joined together to form the container.

3. A pack according to claim 1 wherein the preparation which is performed, is the cooking or baking of the foodstuff held in said cavity.

4. A pack according to claim 1 wherein the respective foodstuffs are placed in respective cavities, at differing locations and then the parts are collated together to form a container in accordance with the invention.

5. A pack according to claim 1 wherein the first and second parts are joined together along adjacent edges thereof which are brought into an abutting or overlapping relationship.

6. A pack according to claim 5 wherein the engagement is achieved via overlapping portions of the respective adjacent edges of the first and second parts.

7. A pack according to claim 6 wherein the overlapping edges are joined together using a mechanical join or via welding.
8 A pack according to claim 1 wherein the container includes at least one sealing layer which is positioned over the openings into the cavities to enclose the foodstuffs within the cavity and hence form the pack.

9 A pack according to claim 8 wherein the sealing layer is applied over the entire surface of the container in which the openings are formed.

10 A pack according to claim 8 wherein a sealing layer is applied over the opening into the cavity in the first part and a second sealing layer is applied over the opening into the cavity in the second part, prior to the parts being joined together.

11 A pack according to claim 8 wherein the portions of the respective parts which are joined together do not have a sealing layer applied thereto.

12 A foodstuff container formed from a plurality of material parts having a cavity for the reception of a foodstuff therein and which foodstuff is sealed within the respective cavity by a sealing layer.

13 A container according to claim 12 wherein a line of weakening is provided which runs parallel with the adjacent edges of the respective parts such that once the parts are joined together, the line of weakening forms a hinge or break point, to allow the contents of one of the cavities to be emptied into the other of the cavities so that the foodstuffs can be consumed in combination.

14 A container according to any of the preceding claims wherein said container is storable for a predefined period of time of at
least a number of weeks, in ambient conditions without adverse effect on the foodstuffs.

15 A container according to claim 12 wherein the cavities of the respective parts are filled with the respective foodstuffs and then the parts are joined together to form a container in accordance with the invention.

16 A container according to claim 12 wherein at least one of the cavities is provided with a venting film layer which allows the cooking or baking of the foodstuff held within the cavity.

17 A retail pack container, said container having at least first and second cavities, said cavities having respective different foodstuffs held therein and wherein said foodstuffs are required to be processed into a condition for retail and/or consumption purposes and wherein differing processing methods are performed on the respective foodstuffs before the container is formed and/or after purchase of a container, and wherein the container is provided as separate parts prior to retail display and said parts can be selectively separated and/or moved for consumption of the foodstuffs following purchase of the retail pack.

18 A method of forming a pack including a container having at least first and second foodstuffs in respective cavities of said container, said container formed from at least first and second parts, said method including the steps of placing a first foodstuff in a cavity of a first part, and a second foodstuff in a cavity of a second part, with the said first and second parts separate; preparing said foodstuffs, as required, into a condition for retail, wherein the respective parts are brought together and, joined to form the container.
19 A method according to claim 18 wherein at least one sealing layer is applied to cover over said cavities.

20 A method according to claim 19 wherein said sealing layers are applied to the first and second parts prior to joining the parts together to form the container.

21 A method according to claim 18 wherein the respective parts are joined together by abutting or overlapping respective edges and using ultrasonic welding along said overlapping portions.

22 A method according to claim 18 wherein a lid or other engagement means are provided to engage the first and second parts together.

23 A method according to claim 18 wherein the preparation which is performed on one of the foodstuffs, is a baking operation in which the foodstuff is wholly or at least partially baked within the cavity of one of the parts of the container prior to joining the parts together.

24 A method according to claim 23 wherein, when baking, the cavity in which the foodstuff is held, is sealed with a venting film which has a series of apertures which open during the baking process to allow CO₂ created during the baking process to be released from the cavity and expansion of the foodstuff to occur.

25 A method according to claim 24 wherein during cooling of the baked foodstuff, the initial cooling stage is controlled so as to close the apertures in the venting film prior to the second cooling stage which reduces the temperature more quickly.
PART 6 Filled with Foodstuff

Sealing Layer Applied over Cavity (10)

Part 4 Filled with Foodstuff

Foodstuff Baked in Cavity (8) and then Cooled

Sealing Layer Applied over Cavity (8)

Overlapping Portions (20,22) of Parts (4,6) Brought Together

Overlapping Portions Ultrasonic Welded Together to Form Container

Formed Container Sent out and Displayed as Retail Pack

Fig. 3

Substitute Sheet (Rule 26)