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[54] **FOOD PACKAGE**
4 Claims, 4 Drawing Figs.

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[51] Int. Cl..... **B65d 1/00**

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 174; 206/45.33, 46 (Food Pres), 46 (FCM),(M),
 655, 72; 220/9 (F), 315 (R); 229/8, 22, 87 (F)

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ABSTRACT: A food package, especially for sandwiches, particularly adapted to be closed by a heat-sealing operation and characterized by insulating the enclosed food from the heat inherent in forming the seal. The shape of the package is modified in the course of the closure operation to grip against the sides of the bread slices, thus to limit relative movement of the article and package, and assure that the contents of the sandwich are preserved intact.

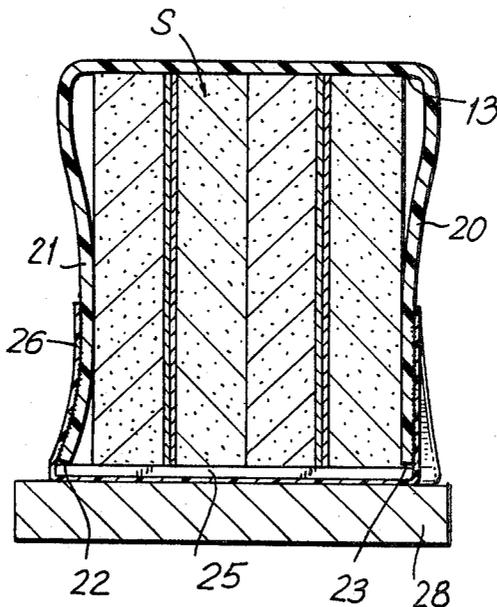


FIG. 1

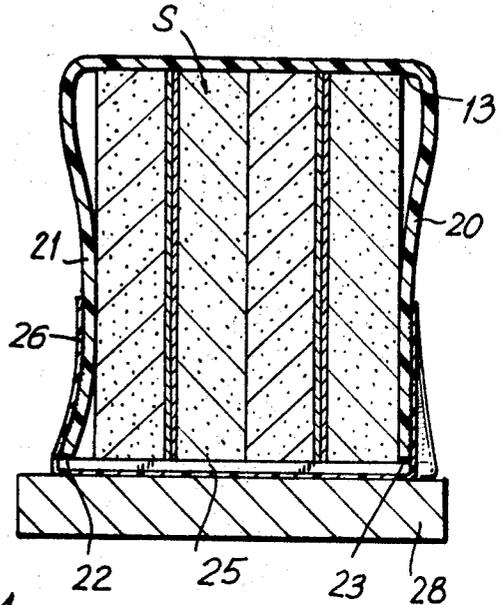
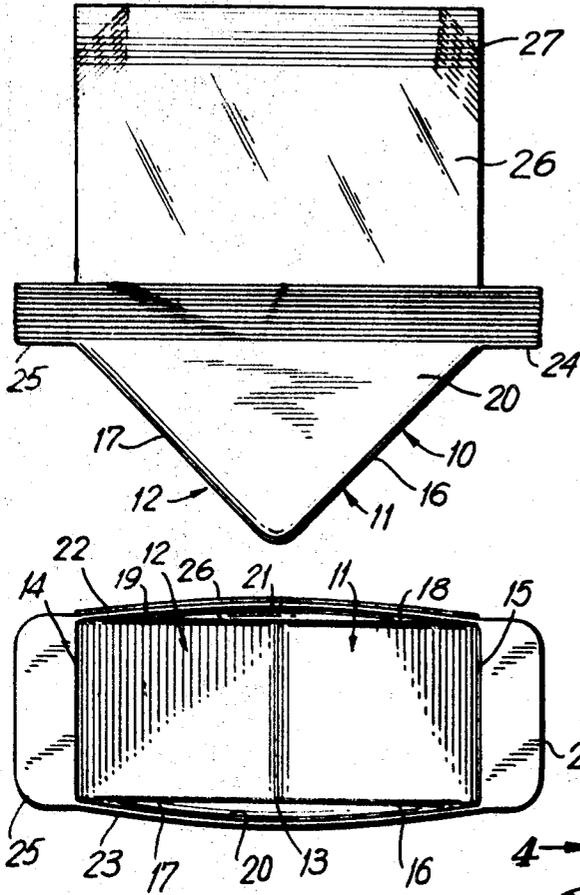


FIG. 4

FIG. 2

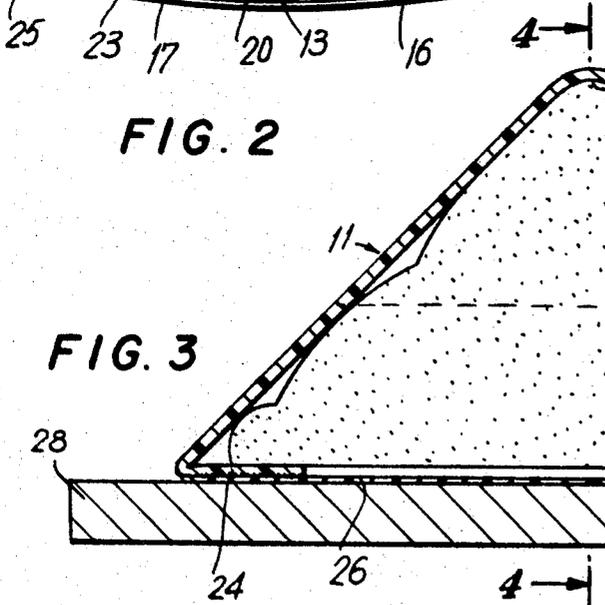
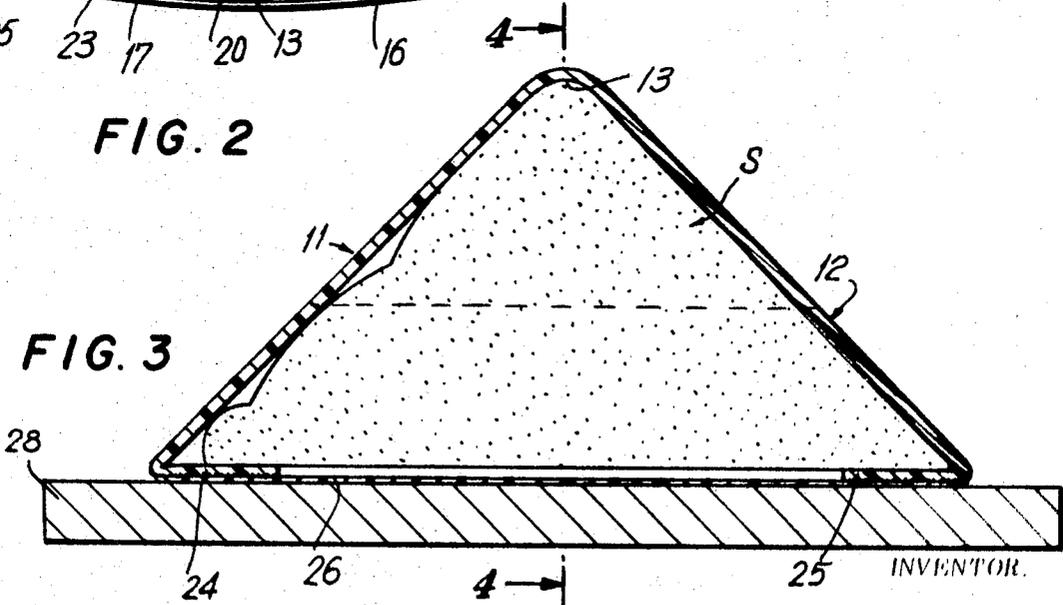


FIG. 3



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FOOD PACKAGE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention is in the field of food packaging, and more particularly relates to a shaped package intended especially for diagonally cut sandwiches.

The invention further relates to a food or sandwich package which may be shipped in partly completed condition, final assembly being effected by a food vendor who will fill the package and thereafter complete the formation of the package.

The package of the present invention has particular utility in that it is especially well adapted for loading into vending machines for subsequent automatic dispensing.

2. The Prior Art

Sandwich packages which are generally triangular in vertical section and provided with planar open mouth portions have heretofore been employed, especially for containing sandwiches comprised of square bread slices which have been cut diagonally to provide two generally triangular sandwich halves.

In one known form of such container, the mouth portion is defined by an outwardly directed rectangular flange, closure of the mouth being accomplished by a flat strip which is adhesively or otherwise connected to the outwardly facing surfaces of the flange. The provision of such flange detracts from the utility of the package in that, by reason of the projecting flange, packaged sandwiches cannot be compactly stacked in vending machines.

Further, the flange component rigidifies or stiffens the mouth portion of the container and the dimension of the mouth thus becomes essentially fixed, without regard to the thickness of the sandwich to be packaged. Where a relatively thin sandwich is to be packed, e.g. American cheese, considerable sidewise movement of the sandwich within the container is possible. As a result of such movement, sandwiches which are loaded within the containers are thereafter transported, may become less appealing in that the contents, such as the cheese slices, etc., may be dislodged from their original disposition between the bread slices.

In devices of the class described, it is not uncommon to apply the sealing strip by a heat-sealing step. In conventional sandwich packages, the use of such heat-sealing apparatus presents the further drawback that the sandwich is subjected to considerable heat in the course of closing the package. Where significant heating of the sandwich occurs, particularly if any considerable time lapse is experienced between forming of the seal and vending of the sandwich, the possibility of spoilage, or discoloration of the visible portions of the sandwich is greatly increased.

SUMMARY OF THE INVENTION

A package, and particularly a sandwich package, which is generally triangular in vertical section and which includes a generally planar open mouth portion. The package includes essentially triangular sidewall portions which are initially preferably slightly outwardly bowed, and further includes hinged flaps depending from the end walls, the hinged connection being located substantially at or below the plane of the mouth.

A transparent sheet is secured to one of the sidewall portions and extends beyond the mouth.

The package is loaded by the insertion of a sandwich. The flaps are folded downwardly and inwardly into partial closing relation of the mouth and the sidewalls pinched inwardly toward each other and against the side faces of the sandwich, thus to shift the sidewalls from an outwardly to a less outwardly bowed, or even to a concave, condition. Thereafter, the covering sheet is disposed in outwardly lapping relation of the flaps and a heat seal effected first between the flaps and the sheet, and thereafter between the sheet and the opposite sidewall portion of the package.

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The transverse dimensions of the flaps are preferably such that when the sidewall portions of the container have been flexed inwardly, the inner faces of the flaps bear against the mouth portion defined by the sidewalls, thereby to assure that, due to the thickness of the flaps, no direct contact between the sandwich and the heat seal mechanism is possible.

The inwardly deflected or distorted sidewall portions in the finished package engage against the sides of the sandwich, thus to maintain the sandwich against relative movement within the package, minimizing damage to the sandwich or dislodgment of the contents.

Preferably the container proper is fabricated of polystyrene foam or the like, which material has the advantages of being light in weight, inexpensive, and having high thermal insulation properties.

It is therefore an object of the invention to provide an improved package, and particularly an improved sandwich package.

A further object of the invention is the provision of a device of the class described which may be sealed by heat-sealing apparatus, the construction of the package being such as to ensure that no direct contact between the contents of the package and the heat-sealing apparatus is possible.

A further object of the invention is the provision of a device of the class described in which the shape of the package may be readily modified in the course of the sealing step and the sealing or closing sheet maintains the package in the modified shape, the sealing sheet thus performing, in addition to its usual closing function, the function of shaping the container to conform with the dimensions of the contents.

Still a further object of the invention is the provision of a package of the type described in which closure may be effected by a simple heat sealing plate, in contrast to other packages which require complex heat sealing dies and apparatuses.

A further object of the invention is the provision of a package of the type described which may, prior to filling, be nested in stacked condition with a multiplicity of other identical packages.

To attain these objects and such further objects as may appear herein or be hereinafter pointed out, reference is made to the accompanying drawings, forming a part hereof, in which:

FIG. 1 is a side elevational view of a stack of sandwich containers prior to filling;

FIG. 2 is a top plan view of a sandwich container of the type described;

FIG. 3 is a vertical sectional view through a filled sandwich container of the type described, showing the position of the parts in the course of a portion of a heat-sealing step; and

FIG. 4 is a section taken on the line 4-4 of FIG. 3.

Turning now to the drawings, there is shown in FIG. 1 a series of nested, unfilled sandwich containers 10. The containers include end walls 11, 12 which, as best seen in FIG. 2, are generally trapezoidal. The end walls are defined by a common minor base 13 and slightly larger major bases 14, 15. The opposite sides of the trapezoids 11, 12 coincide with the sides, 16, 17 and 18, 19 of the triangular sidewalls 20, 21, respectively. The apices of the triangular sidewalls coincide substantially with the junction defined by the minor bases 13 of the trapezoidal end walls. As shown, the apex or peak of the package may be somewhat rounded.

The major bases 14, 15 of the end walls and the bases 22, 23 of the triangular sidewalls 20, 21, respectively, terminate essentially in a common plane and together define an open mouth portion through which a sandwich S may be inserted.

A pair of flaps 24, 25 are hingedly connected to the bases 15, 14, respectively, of the end walls.

The containers as thus far described are preferably integrally molded of polystyrene, the fold line between the flaps and the end walls being compressed to permit the desired hinging of the flaps without cracking of the flexure line.

In practice, the containers are preferably supplied with a transparent, heat-sealable sheet 26, adhesively or heat sealingly connected to one of the sidewalls, e.g. the sidewall 21. The sheet is of a length to permit it to be folded into outwardly lapping relation of the mouth portion, and also a portion of the opposite sidewall. The sheet may terminate with a squared corner, as shown in FIG. 1, or the corners may be severed at an angle, as represented by the dotted line 27, so that in its outwardly lapping position, it does not extend beyond portions of the opposite sidewall.

As best seen in FIG. 2, sidewalls 20, 21 are slightly outwardly bowed or convex when viewed from the exterior of the container. The convexity noted facilitates stacking of the containers and also provides a construction in which the sidewalls 20, 21 may be caused to embrace the sides of the sandwich, to limit relative movement between the sandwich and container, to guard against dislodgment of food slices from between the bread slices.

The container is preferably used with a sandwich made of a bread loaf which is square or approximately square in transverse section. The sandwich is cut diagonally, to define two sandwich halves which are essentially triangular in plan. The stacked sandwich halves are inserted into the interior of the package in the manner best shown in FIG. 3, so that the point or apex of the sandwich slices is disposed against the apex line 13 defined by the minor bases of the trapezoidal end walls.

With the sandwich thus positioned, the triangular sidewalls 20, 21 may be squeezed inwardly with moderate pressure so as to compress the walls against the sides of the sandwich, see FIG. 4. The cover sheet 26 is thereupon folded over the open mouth portion, the flaps 24, 25 having previously been folded inwardly to the position shown in FIG. 3 so that the covering sheet 26 outwardly laps the flaps, in addition to covering the mouth portion.

The sheet 26, which preferably comprises a material having a heat-sealable coating on its inner, flap adjacent surface, is heat sealingly connected to the flaps, i.e. by a downward pressure against the heated platen 28. Thereafter, with the pressure against the sidewalls still maintained, a heat seal connection is effected between the sheet 26 and the outer surface of the opposite sidewall, i.e. the sidewall 20. The latter heat seal is effected by rotating the package through 90° and wiping the surface to be sealed against the platen 28.

It will be appreciated that the heat-sealing apparatus need comprise nothing more than a heated metallic plate 28 and that no complicated jigs or dies need be employed in such heat-sealing operation.

The inward deforming pressure against the sidewalls 20, 21 is maintained by the operator until the heat-sealing operation has been completed. After the sheet 26 is heat sealingly connected to the flaps and to the opposite sidewall 20 of the container, manual pressure may be released since the heat-sealed sheet maintains the sidewalls in their inwardly deformed position, as best shown in FIG. 4.

The sealing and reshaping functions served by the sheet 26 form an important feature of the invention. In addition to the expected function of sealing the interior of the package, the sheet also functions to minimize damage to the sandwich in the course of transportation and prevent dislodgment of the contents since, in the properly sealed package, the inward pressure exerted against the sidewalls during formation of the seal is maintained by the fastened sheet.

It will further be observed that by inwardly deforming the sidewall portions, a considerable proportion of the air in the interior of the package is expressed, reducing the likelihood of spoilage and maintaining the freshness of the bread.

As best seen in FIG. 3, the inwardly folded flaps are pressed upwardly against the under surface of the sandwich. Accordingly, when a heat seal is formed across the mouth portion by the plate 28, the undersurface of the sandwich is spaced from the cover sheet 26 a distance which is at least equal to the thickness of the flaps 24, 25. This spacing feature

assures that large quantities of heat will not be transmitted to the sandwich proper in the course of the heat-sealing operation, thus reducing the likelihood of spoilage or bacterial activity due to any overheating of the sandwich contents.

It will be appreciated from the foregoing description that variations from the embodiment illustrated may be made, without departing from the spirit of the invention. Thus, adhesives may be employed in the application of the sheet 26 to one or both of the side portions of the package. In the event that the final closure is to be effected by adhesive means, a pressure-sensitive adhesive is preferred since, by this mechanism, a firm attachment of the sheet to the second side portion may be effected while inward pressure is maintained against the sides of the container.

From the foregoing it will be further appreciated that there is provided an improved sandwich pack which may be distributed in stacked, nested position, which may be readily filled, and which may be sealed by a heat-sealing or like step not involving complex jigs or dies. A package of a single size may be readily adapted to receive sandwiches of a wide variety of thicknesses since by inwardly deflecting the walls of the container during the sealing step, the cover sheet will retain the walls in contact with the sandwich.

By reason of the intumed flap portions, heat sealing may be effected without any direct contact between the cover sheet and the sandwich during formation of the seal.

The sandwich package, when finished, does not incorporate any projecting flaps, flanges or like extensions which would interfere with a compact, closely stacked arrangement of the filled sandwich containers, thereby permitting efficient use of the limited storage space within vending machines.

Having thus described the invention and illustrated its use, what is claimed as new and is desired to be secured by Letters Patent is:

I claim:

1. A sandwich package or the like comprising a body portion of expanded foamed material or the like, said package including a pair of generally trapezoidal end walls having major and minor bases, the minor bases of said trapezoids being joined together, the body including a pair of generally triangular sidewall portions, the apices of said sidewall portions coinciding with opposite extremities of the junction of said minor bases, the sides of said triangles adjacent said apices being connected, respectively, to side portions of said end walls, the bases of said triangular sidewalls and the major bases of said end walls together defining an essentially planar open mouth portion, foldable flap members hingedly extending from an opposed pair of bases of said walls and being foldable about a fold line parallel to the plane of said open mouth portion, and a transparent covering sheet connected to one of said triangular sidewalls adjacent the base thereof, said sheet being foldable to and adapted to be secured in closing relation of said mouth portion in outwardly lapping relation of the other said sidewall, said sheet, in said outwardly lapping relation, biasing said flap portions upwardly toward said apex, said flaps, in the closed relation of said package, being disposed below the level of the bases of said triangular sidewalls.

2. A package in accordance with claim 1 wherein said flaps are connected to the major bases of said end walls and said triangular sidewalls are outwardly bowed in the unstressed condition thereof and are distorted inwardly from said outwardly bowed position in the secured position of said sheet, thereby clampingly to engage the contents of said package under the constraining influence of said sheet.

3. A package in accordance with claim 2 wherein the transverse dimension of said flaps exceeds the transverse spacing of said triangular wall portions in the inwardly folded condition of said flaps, whereby the undersurface of said flaps engages against the undersurface of the bases of said sidewalls, the contents of said package being supported against said under surface of said flaps whereby said sheet is spaced from the contents of said package by at least the thickness of said flaps.

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4. A sandwich package or the like comprising a body portion of relatively rigid material, said package being generally triangular in vertical section and including generally triangular, outwardly bowed sidewall portions to accept a diagonally cut sandwich, the package including a generally planar open mouth portion, a transparent covering sheet connected to one of said sidewall portions and adapted to be

outwardly lapped in covering relation of said open mouth portion and sealed to said other sidewall portion, said sheet, in the sealed position thereof, deflecting said sidewall portions inwardly from said outwardly bowed condition, thereby yieldingly to engage the contents of said package to minimize shifting movement of said contents relative to said package.

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