(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 443 723 A1**

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **91300545.0**

(51) Int. Cl.[5]: **B65D 33/25**

(22) Date of filing: **24.01.91**

(30) Priority: **20.02.90 US 482173**

(43) Date of publication of application:
28.08.91 Bulletin 91/35

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU NL SE

(71) Applicant: **OSCAR MAYER FOODS CORPORATION**
910, Mayer Avenue
Madison Wisconsin 53707(US)

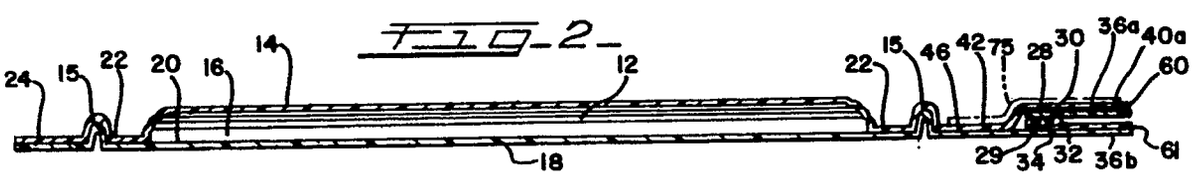
(72) Inventor: **Schwarz, Dean E.**
1402 Drewry Lane
Madison, Wisconsin 53704(US)

(74) Representative: **Eyles, Christopher Thomas et al**
W.P. THOMPSON & CO. High Holborn House
52-54 High Holborn
London WC1V 6RY(GB)

(54) **Recloseable package with product backing board.**

(57) A recloseable package wherein the enclosed product (12) is supported on a rigid backing board (18) and the package includes a recloseable seal strip (29) mounted on an access edge of the backing board. One sheet of packaging film (14) overlies the backing board and the packaged product. The film sheet (14) is sealed hermetically around the periphery (24) of the backing board and further sealed to the recloseable seal strip (29) exterior of the hermetic seal.

FIG-2



EP 0 443 723 A1

Background and Summary of the Invention

The present invention relates generally to recloseable packages for hermetically sealing consumable products supported on a backing board and contained on the backing board by an opposing sheet of package film, and more particularly to recloseable packages for food products and the like in which the recloseable seal fastener elements are attached to the backing board and the opposing package film sheet.

Certain processed meats and/or food products sold to consumers are sold in packages in which the processed meats or food products are mounted on a backing board. The freshness of these food products such as bacon, sliced luncheon meats, cheeses and the like contained within these packages depends upon the extent to which the package is vacuum packed or gas flushed and subsequently hermetically sealed. Often, the purchaser does not use the food products contained within such packages at once, but rather uses them over an extended period of time. When the initial hermetic seal of the package has been breached during opening of the package, a portion or portions of the package are often removed. In such instances, the package cannot be effectively resealed in a manner to preserve the freshness of the food products stored within. The purchaser must often repack the food products in a different suitably recloseable container. Accordingly, a need exists for an improved food product package of the backing board type which has a recloseable seal.

The improved packages of the present invention provide significant advantages in that the hermetic seal extends around the entire periphery of the product interior of the recloseable seal so that the package is liquid tight and suitably retains within the package, fluids of the products contained therein, including water, juices, oils and the like, while the package recloseable seal is adhered to the product backing board so that the package can be opened and closed repeatedly to remove portions of the package contents without destroying the integrity of the package. A "zipper" seal consisting of interengaging components such as rib and groove fastener elements is the preferred recloseable seal means.

The hermetic seal disposed on one surface of the product backing board around the periphery of the product has an easy open or peel seal portion located adjacent the product and interior of the recloseable seal. The recloseable seal is opened with digital pull-apart forces which are also used to open the peal seal. The peripheral hermetic seal can maintain a vacuum, pressurized and/or gas-flushed environment within the package. The peel seal area of the hermetic seal will be formed by effecting a face-to-face seal between a plastic film and the product backing board around the periphery of the product with the strength of the seal permitting separation without destruction or tearing of the plastic film.

The recloseable seal of the package of this invention is attached to an access edge of the product backing board as well as an access edge of the plastic film sheet. One of the recloseable seal interengaging fastener elements is adhered directly to the backing board while the other of the interengaging fastener elements is adhered directly to the package plastic film sheet. In this regard, the two interengaging fastener elements are firmly anchored to both the backing board and the package film, which decreases the possibility that the packaging material may tear or separate when the hermetic seal is opened.

Accordingly, it is a general object of the present invention to provide an improved recloseable package for use with products positioned on a backing board which has a first recloseable seal disposed along an access edge of the backing board and a second hermetic peel seal peripherally adjacent to the product and adjacent the recloseable seal.

Another object of the present invention is to provide a recloseable package for food products and the like having a recloseable seal disposed near an opening of the package and attached to the product backing board and a hermetic seal interior of the recloseable seal, the hermetic seal having a peelable seal area adjacent to and interior of the recloseable seal.

Yet another object of the present invention is to provide an improved product package having a peel seal and a recloseable seal, wherein the recloseable seal elements are attached to an inner product supporting bacon board and to the outer plastic packaging film sheet.

These and other objects of the present invention will become more readily apparent from a reading of the following detailed description.

Brief Description of the Drawings

Figure 1 is a perspective view of a package incorporating the principles of the present invention. For purposes of illustration only, the package is shown as containing vacuum-packed luncheon meats;

Figure 2 is a cross-sectional view taken along line 2-2 of Figure 1; and

Figure 3 is an exploded perspective view of the package of Figure 1.

Detailed Description of the Invention

Figure 1 illustrates a recloseable package 10 constructed in accordance with the principles of the

present invention. The packages 10 of the present invention are particularly suitable for sealing a perishable food product, shown in Figures 1 and 2 as luncheon meat slices 12, between one sheet or panel 14, of a flexible packaging film material and a product backing board 18. The film sheet 14 which forms one sidewall of the package 10 can be made from a variety of materials including plastic films, multi-layered laminates or co-extrusions, thermoformable materials and the like. A preferred plastic film for assembly of the packages of the present invention is one which is impervious to air, oxygen and/or moisture.

When the package film sheet 14 is formed from a laminated construction, it is desirable to use a thin, inner layer which is impervious to air, oxygen or moisture in combination with an outer layer having sufficient flexibility and desirable structural characteristics so that the laminate can function as a package sidewall film. For purposes of illustration and discussion, each film sheet will be shown as a single heat-sealable lamina. In actual practice, each film sheet will likely be a laminate of two or more layers which will provide sufficient protection to the product (e.g., oxygen and moisture barriers) and which can form a hermetic, and if desired, peelable seal at thin inner surfaces. As is known in the art, laminates comprised of vinylidene chloride polymer plastic films, such as "Saran", polyvinyl chloride, or ethylene vinyl acetate plastic film are suitable. When the film sheet 14 is of a laminated construction, it is preferable to have a layer of ethylene vinyl acetate on the surface of the film sheet which will contact the product backing board 18.

Figures 1 and 2 illustrate a package 10 in which one film sheet 14 encloses a plurality of luncheon meat slices 12 positioned on a generally rectangular, and substantially rigid product tray or backing board 18, sometimes referred to as "bacon" boards. The backing board 18 is also preferably constructed from a material which is impervious to air, oxygen and/or moisture. In this regard, a somewhat rigid thermoplastic sheet is used to provide a support surface 20 for the luncheon meat 12 and to serve as the other sidewall of the package 10. Backing boards formed from polyvinyl chloride or Barex ® have been found to exhibit the preferred desired rigidity and film sealing capabilities. Cardboard may also be used as the product backing board provided that it has been previously rendered impervious to oxygen, air and/or mositure, such as by wax impregnation. The luncheon meat slices 12 or the like are desirably positioned on the backing board 18 within a means for retaining the luncheon meat in a packaged product area 16, illustrated as a raised portion or wall 15 of the backing board 18. Not only does the raised portion 15 retain the luncheon meat 12 within the packaged product area 16, but also it confines any juices, oils, or fluids from the luncheon meat within the product area 16. The raised portion 15 can be formed integrally within the backing board 18 (most easily accomplished when the backing board 18 is made of a thermoplastic material) or alternately, can be formed by attaching a separate member to the backing board 18.

The film sheet 14 and the backing board 18 are combined by contacting each other around the luncheon meat 12 to form an inside border area 22 within the raised portion 15 and a peripheral margin 42 extending around the periphery of the product as positioned on the backing board 18. When a vacuum is applied to the space between the film sheet 14 and luncheon meat 12, the film sheet 14 is drawn inwardly about the luncheon meat 12 or the like to conform to the contour thereof to provide the package 10 with improved rigidity for withstanding rigorous handling during transport and retail display and the like. When a laminated film is used wherein the surface of the film sheet 14 which contacts the backing board 18 is formed from a layer of ethylene vinyl acetate, the inherent adhesive qualities of the ethylene vinyl acetate laminate form a secure, yet peelable, hermetic continuous edge seal 24 outside the board raised portion 15, which maintains a secure seal during handling and storage that can be peeled back upon the application of digital forces applied through an outer recloseable seal 26 or the like.

As best shown in Figures 2 and 3, the package has a first, outer recloseable seal 26 illustrated as a conventional interengaging fastener assembly 27 such as a rib and groove fastener assembly. Although the interengaging fastener assembly 27 is illustrated as one that is particularly secure for the illustrated type of package 10, namely having a length of a formed double rib element strip 28 and a similar length of a formed double groove strip 29, it will be noted that the interengaging fastener elements 28 and 29 of the recloseable seal 26 are not limited to any particular number of interengaging fastener elements. The ribs 30 project outwardly from the double rib element strip 28 a sufficient distance to be securely interengaged with and held by their confronting and complementary counterparts in the double groove element strip 29. The double groove element strip 29 shown includes three outwardly extending walls 32 which define two channels or grooves 34 therebetween. The grooves 34 are of sufficient width to firmly engage the ribs 30 when the confronting interengaging fastener strips 28, 29 are pressed together. Both the recloseable seal 26 and the interengaging fastener assembly 27 can take any number of various characteristics and configurations in addition to those described herein.

The rear surfaces of the interengaging fastener elements 28, 29 include attachment means in the form of flanges 36a, 36b which extend transversely to the fastener elements 28, 29. These flanges 36a, 36b are of a sufficient width to provide appropriate surfaces to adhere and seal both the film sheet 14 and the backing board 18 to the recloseable seal fastener elements 28, 29. When the flanges 36a, 36b are sufficiently wide, it is desirable to locate the interengaging fastener elements 28, 29 toward the bottom of the flanges so that the uppermost portions 60 of the flanges 36a, 36b will serve as pull flanges 61 which easily enable the user to obtain easy access to the recloseable seal 26.

As shown in Figure 2, the flanges 36a, 36b can be separate members which are formed apart from the rib and groove elements and subsequently attached thereto by any suitable means such as heat sealing or adhesive sealing. Alternatively, as shown in Figure 3, the flanges 36a, 36b can be integrally formed with their respective fastener elements 28, 29. One sealing flange 36b of the interengaging fastener elements 28, 29 is disposed so that the longitudinal surface 40b of the flange 36b is opposite and adjacent to the backing board 18. The interengaging fastener assembly 27 is attached to the backing board 18 by adhering the fastener element flange longitudinal surface 40b to the backing board access edge 38. This may be accomplished by any appropriate means such as a suitable adhesive or, in instances where the backing board 18 is a thermoplastic material, the fastener assembly 27 may be adhered to the backing board 18 by heat sealing, ultrasonic welding or the like. The interengaging fastener assembly 27 is preferably of the same length as the backing board 18 and the interengaging fastener elements 28, 29 are attached together at their opposite ends 70 so that the fastener material is not wasted in the trimming of the package 10 and so that it does not interfere with the peripheral hermetic seal 44 of the package.

After fitting the interengaging fastener assembly 27 onto the backing board 18 and the ends 60 thereof are attached together, the product 12 is positioned on the backing board 18 within the upraised portion 15 thereof to form a product board assembly. The film sheet 14 is brought into contact with the backing board 18, and a vacuum is applied therebetween. A second, hermetic seal 44 is formed around the periphery of the product and interior of the first outer, recloseable seal 26. The film sheet 14 is then permanently adhered to the recloseable seal 26 along the longitudinal surface 40a of the fastener element flanges 36a, by heat sealing, ultrasonic welding, by sealing with an adhesive, or by any other suitable means. Any air present between the film sheet 14 and the backing board 18 when the product 12 is inserted can be evacuated and/or the product 12 gas-flushed if desired.

As best seen in Figure 2, it is desirable to make a portion of the hermetic seal 44 which is interior of and adjacent to the recloseable seal 26 a peelable seal 46 to allow the purchaser simple and easy access to the product 12. The hermetic seal 44 may be entirely of a peelable nature with the hermetic seal portion thereof having a stronger bond effected between the film and the backing board peripheral margin 42 than in the peelable seal portion 46 interior of the recloseable seal 26 so that the hermetic seal 44 is, for all intents and purposes, non-peelable. In any event, because the hermetic seal 44 is positioned interior of the recloseable seal 26, the likelihood of "leakers", i.e., packages wherein the product juices or oils escape from the product area 16 and enter the recloseable seal area, is greatly diminished.

Significantly, during production of packages of the present invention, a continuous strip of the recloseable seal interengaged fastener elements 28, 29 may be fed and applied to the access edge 38 of a continuous length of the backing board 18. The continuous strip of interengaged fastener elements 28, 29 are preferably trimmed even with the edges of the backing board 18 and are attached together at their ends 70 to form the package mouth 80. Accordingly, there is no wasting of the recloseable seal material. An individual backing board 18 may then be dimensioned and cut from the continuous length and transferred to a product application area. A preselected amount of luncheon meat 12 is then deposited on the backing board 18 within the previously formed upraised portion 15 to form a product-backing board assembly, which is subsequently transferred to a packaging station where the film sheet 14 may be fed from supply rolls into a position opposite the product support surface 20 of the product-backing board assembly and into contact therewith at a peripheral margin 42 extending around the product-backing board assembly. The film sheet 14 is adhered to the recloseable seal fastener element flange surface 40a, and is further bonded to the backing board 18 at the peripheral margin 42 thereof to form the package hermetic seal. After the film sheet 14 is bonded to the backing board 18, a package label 75 (shown in phantom) or other package graphics may be applied to the film sheet in a conventional manner.

When it is desired to open a finished package, the user grips the two pull flanges 60, 61 of the interengaged fastener element flanges 36a, 36b and applies digital pull apart forces to open the peel seal portion 46 of the hermetic seal 44. The recloseable seal 26 will separate up to their at-

tached ends 70 and open, thereby allowing access to the inner peelable seal. The recloseable seal fastener elements 28, 29 will open to form a package mouth 80 and because the recloseable seal 26 is adhered to the backing board 18 and attached at its ends 70, the likelihood of destruction of the integrity of the package 10 is greatly diminished.

It will be seen that while certain embodiments of the present invention have been shown and described, it will be obvious to those skilled in the are that changes and modifications may be made therein without departing from the true spirit of the scope of the invention.

Claims

1. A method of enclosing a product deposited onto a product backing member with a single sheet of packaging material, the method comprising the steps of:

attaching a fastener strip assembly of interengaging fastener elements to a product backing member adjacent to and generally parallel to an access edge of the product backing member to define an access end portion, the interengaging fastener elements each having a package sealing flange disposed on opposite sides of the fastener strip,

placing the product onto said product backing member in a manner such that the product does not contact the package sealing flanges of said fastener strip to form a product-backing assembly,

placing one sheet of a flexible packaging material over the product-backing assembly,

contacting the one sheet of flexible packaging material with said product backing board at a hermetic seal area around the periphery of said product on said product-backing assembly to create a hermetic seal which completely encloses said product on said product-backing assembly wherein said hermetic seal includes at least one peelable bond area generally at the access end portion of said product-backing member and interior of said interengaging fastener elements; and

attaching said one sheet of flexible packaging material to one of said fastener element package sealing flanges.

2. The method of claim 1, wherein said interengaging fastener elements are adhered to said one sheet of flexible packaging material and said product backing member by adhesive means.

3. The method of claim 1, wherein said interengaging fastener elements are adhered to said one sheet of flexible packaging material and said product backing member by heat sealing means.

4. The method of claim 1, wherein said interengaging fastener strip assembly includes interengaging rib and groove fastener elements.

5. The method of claim 1, further including the step of vacuum packing said product between said product-backing assembly and said one sheet of flexible packaging material.

6. The method of claim 1, further including the step of attaching said interengaging fastener elements to said product backing member by adhering a longitudinal surface of one of said interengaging fastener elements to said product backing member along substantially the entire length of the access edge of said product backing member.

7. The method of claim 1, further including the step of applying containment means to said backing member to contain said product in a packaging position on said backing member.

8. A method useful for enclosing a product between one sheet of film and a product board to provide a film package having a product enclosing portion and a recloseable seal portion, the one sheet of film being readily separable at the recloseable seal when access to the product is desired, the method comprising the steps of:

applying a continuous recloseable seal member adjacent and generally parallel to an access edge of a continuous product board, the recloseable seal member including a pair of interengaging fastener elements, each element having a package sealing flange, the continuous recloseable seal member being applied to the continuous product board along one of said package sealing flanges said interengaging fastener elements,

separating an individual product board from said continuous product board,

designating a product location on said product board to define a product enclosing portion,

drawing the single sheet of package film around the product board assembly to bring said single sheet of packaging film into contact with said product board around the periphery of the product enclosing portion and interior of said recloseable seal member,

attaching said single sheet of package film to the other of said package sealing flanges of said interengaging fastener elements, and

bonding said single sheet of packaging film to the said product board around the periphery of the product enclosing portion, whereby a peelable hermetic bond is provided proximate to said product board access edge and a generally secure, yet peelable hermetic bond is provided as to the remainder of the package.

9. A recloseable package for hermetically sealing a product between a sheet of packaging film and a product backing board comprising, in combination:

a product backing board dimensioned to receive a preselected amount of product thereon in a backing board product area;

continuous recloseable fastener means at-

tached to an access edge of the backing board, the continuous recloseable fastener means including opposed interengaging fastener elements being disposed generally parallel and adjacent to the access edge of said backing board and being further disposed near a mouth portion of said flexible package, the opposed interengaging fastener elements being further attached to each other at the ends thereof to define the mouth portion of said flexible package;

a sheet of packaging film contacting and bonded to said backing board around a peripheral margin of said backing board surrounding the backing board product area to form a package having a mouth portion, the film sheet further being attached to said continuous recloseable fastener means so as to form a recloseable seal near said mouth portion of said package, said film sheet and said backing board further being bonded together to form a hermetic peel seal between said film sheet and said backing board interior of said interengaging fastener elements.

10. The package of claim 9, wherein each of said interengaging fastener elements includes a sealing flange, said film sheet being attached to one of the interengaging fastener element sealing flanges, said backing board being attached to the other of said interenegaging fastener element sealing flanges.

11. The package of claim 9, wherein said product backing board is a thermoplastic and said film sheet is a laminated film sheet, the inner surface of the laminated film sheet which contacts and bonds to said product backing board being a layer of ethylene vinyl acetate film.

12. The package of claim 9, wherein said hermetic peel seal is formed by adhesive means.

13. The package of claim 9, wherein said film sheet is formed from a flexible, oxygen impermeable laminated package film.

14. The package of claim 9, wherein said interengaging fastener elements include interengaging rib and groove elements.

15. The package of claim 9, wherein each of said interengaging fastener elements includes a longitudinal flange, said film sheet being attached to one of the interengaging fastener element longitudinal flanges and said backing board being attached to the other of said interengaging fastener element longitudinal flanges, the one interengaging fastener element flange having a transverse extension which enables said flange to be easily gripped.

16. The package of claim 9, wherein said package includes means for containing said product in said backing board product area.

15. The package of claim 9, wherein said package is for enclosing perishable food products.

18. The package of claim 9, wherein said backing board has a generally rectangular shape, and said film sheet is bonded to said backing board along the periphery of three edges of said backing board to form a generallly permanent hermetic seal peripherally adjacent to the packaged product along the three edges of said backing board and said film sheet is further bonded to said backing board interior of said recloseable fastener means to form a peelable seal, said backing board further including means for containing said product in said backing board product area, the containment means including a raised wall and defining said backing board product area.

19. A recloseable package for hermetically sealing a food meat product supported on a substantially flat product tray having a recloseable seal to permit periodic access to the package after initial opening of said package, comprising, in combination:

a sheet of flexible, oxygen-impermeable package film contacting and bonded to a food meat product tray for supporting said food meat product to define a flexible package bonded at three sides and having a fourth side containing a package mouth portion, the product tray having a food meat product support surface which is dimensioned to receive a preselected amount of food meat product thereon, continuous recloseable fastener means forming a recloseable seal for said package, the continuous fastener means including a strip of opposed interengaging fastener elements, the interengaging fastener elements being adhered to said product tray proximate to a first edge of said product tray and adjacent and generally parallel to the product tray first edge, each of said interengaging fastener elements including a longitudinal flange, said film sheet being bonded to the longitudinal flange of one of said interengaging fastener elements and said product tray being bonded to the longitudinal flange of the other of said interengaging fastener elements, said film sheet further being bonded to said product tray at said package mouth portion interior of said recloseable fastener means to form a hermetic peelable seal on said product tray adjacent to and interior of said recloseable fastener means and between said recloseable fastener means and said product.

20. The recloseable package of claim 19, wherein said food meat product is a perishable luncheon meat product.

21. The recloseable package of claim 19, wherein said food meat product is vacuum packed between said film sheet and said product tray.

22. The recloseable package of claim 17, wherein said product tray is generally rectangular and is formed from a thermoplastic, said product tray including means for retaining said food meat product in a packaging position on said product tray, the retaining means including a raised portion of

said product tray.

23. The recloseable package of claim 17, wherein said product tray is generally rectangular and is formed from cardboard which has been impregnated with wax to render the cardboard impervious to oxygen.

24. A recloseable package for hermetically sealing a comestible, perishable product under a package film sheet comprising, in combination:

a generally rigid board dimensioned to receive and support a preselected amount of product;

the board including recloseable seal means including a strip of opposed interengaging fastener elements disposed on said board proximate to one edge thereof, the opposed interengaging fastener elements being attached together at their ends to form a package mouth portion,

a sheet of package film disposed proximate to a surface of said board, the film sheet contacting the surface of said board around the product, said film being bonded to said board to form a first package hermetic seal around said product,

the opposed interengaging fastener elements including a pair of opposed contacting flanges, one of the contacting flanges being in contact with and bonded to said film sheet and the other of said contacting flanges being in contact with and bonded to said board to form a second package recloseable seal disposed proximate to the board one edge and the package mouth portion, and

said first package seal having a portion thereof which is interior of and adjacent to said second package recloseable seal which has a peelable hermetic seal.

25. The recloseable package of claim 24, further including means for retaining the product in a packaging position on said board.

26. The recloseable package of claim 25, wherein said board is a thermoplastic, and said product retaining means includes a raised portion of said board peripherally surrounding said product.

27. The recloseable package of claim 24, wherein said package contains a food meat product which is vacuum-packed on said board between said film sheet and said board, said board being formed from a polyvinyl chloride sheet and said film sheet having a layer of ethylene vinyl acetate which contacts said board.

28. The recloseable package of claim 24, wherein said interengaging fastener contacting flanges are bonded to said film sheet and said board by adhesive means.

29. The recloseable package of claim 24, wherein said interengaging fastener element contacting flanges are bonded to said film sheet and said board by heat sealing means.

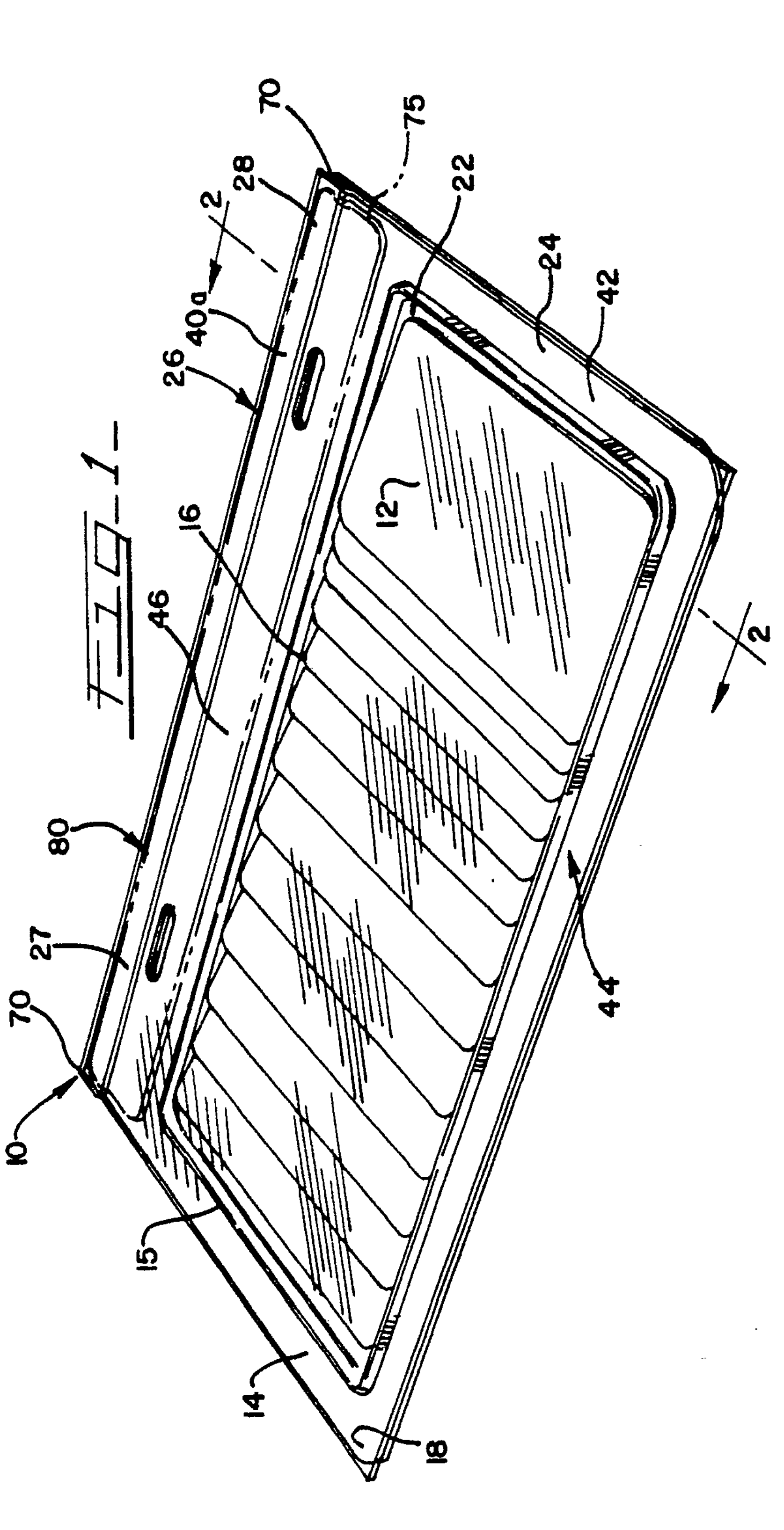


FIG-1

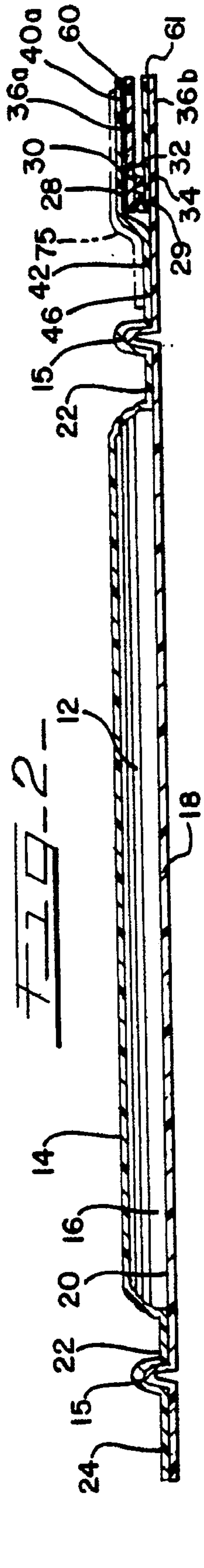
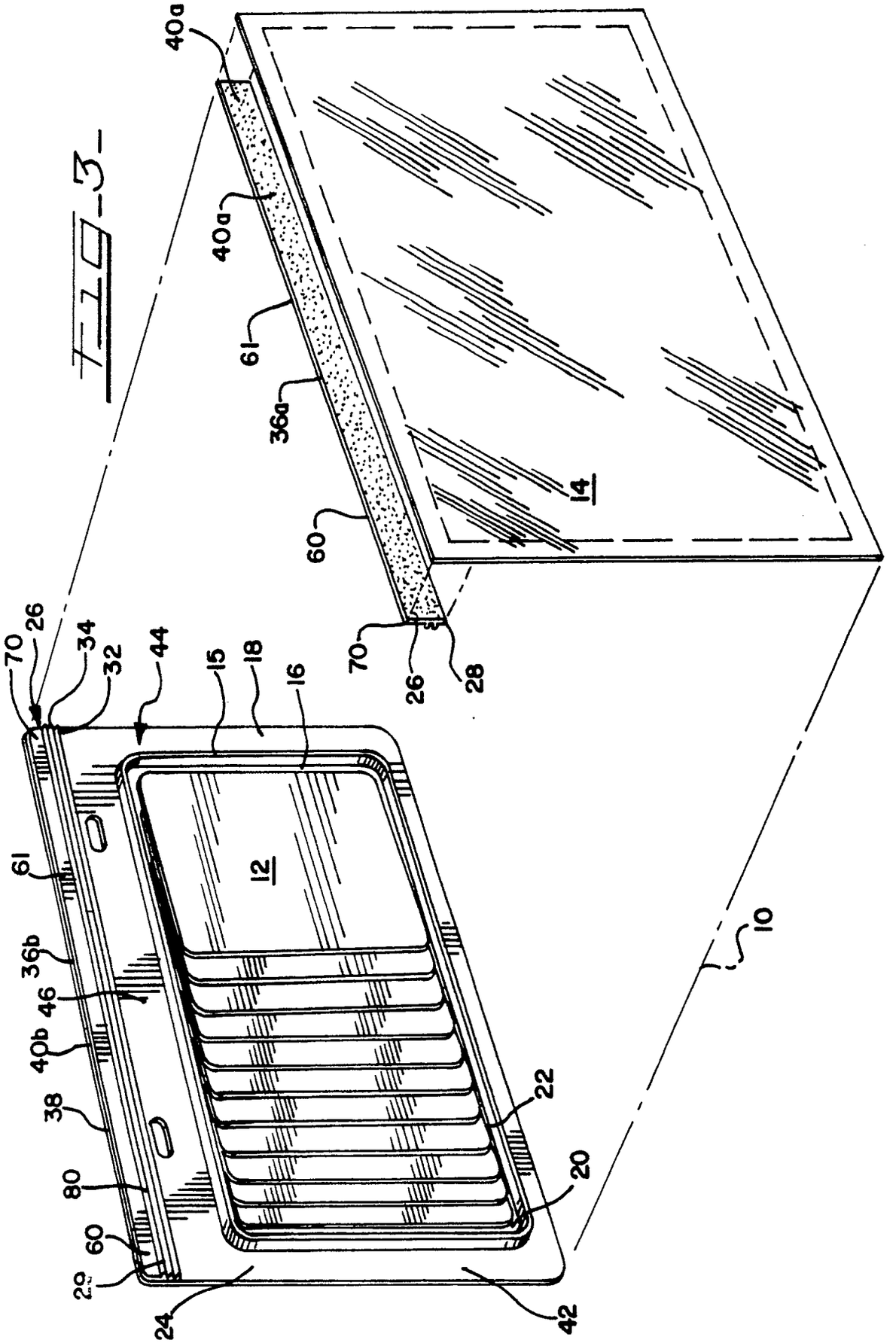


FIG-2

FIG-3


40a
40a
61
36a
60
14
70
26
28
70
26
34
32
44
15
18
16
12
61
36b
46
40b
38
80
60
20
24
22
20
42
10

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 91 30 0545

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X,P	EP-A-0 395 362 (REYNOLD CONSUMER CO. & CURWOOD INC.) * Figures 1,2; column 3, lines 29-57; column 4, line 33 - column 5, line 1; column 6, line 51 - column 7, line 21; claims 1,2 *	1-22, 24-29	B 65 D 33/25
Y		23	
Y	US-A-4 371 553 (D.A. GILLING et al.) * Figure 2; abstract; column 4, lines 4-10 *	23	
X	US-A-4 246 288 (P.A. SANBORN) * Figures 1,5,7,8; column 4, line 48 - column 6, line 21; column 6, lines 43-66 *	1-22, 24-29	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)
B 65 D B 31 B B 65 B

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	07 May 91	PERNICE,C.

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
Y: particularly relevant if combined with another document of the same catagory
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