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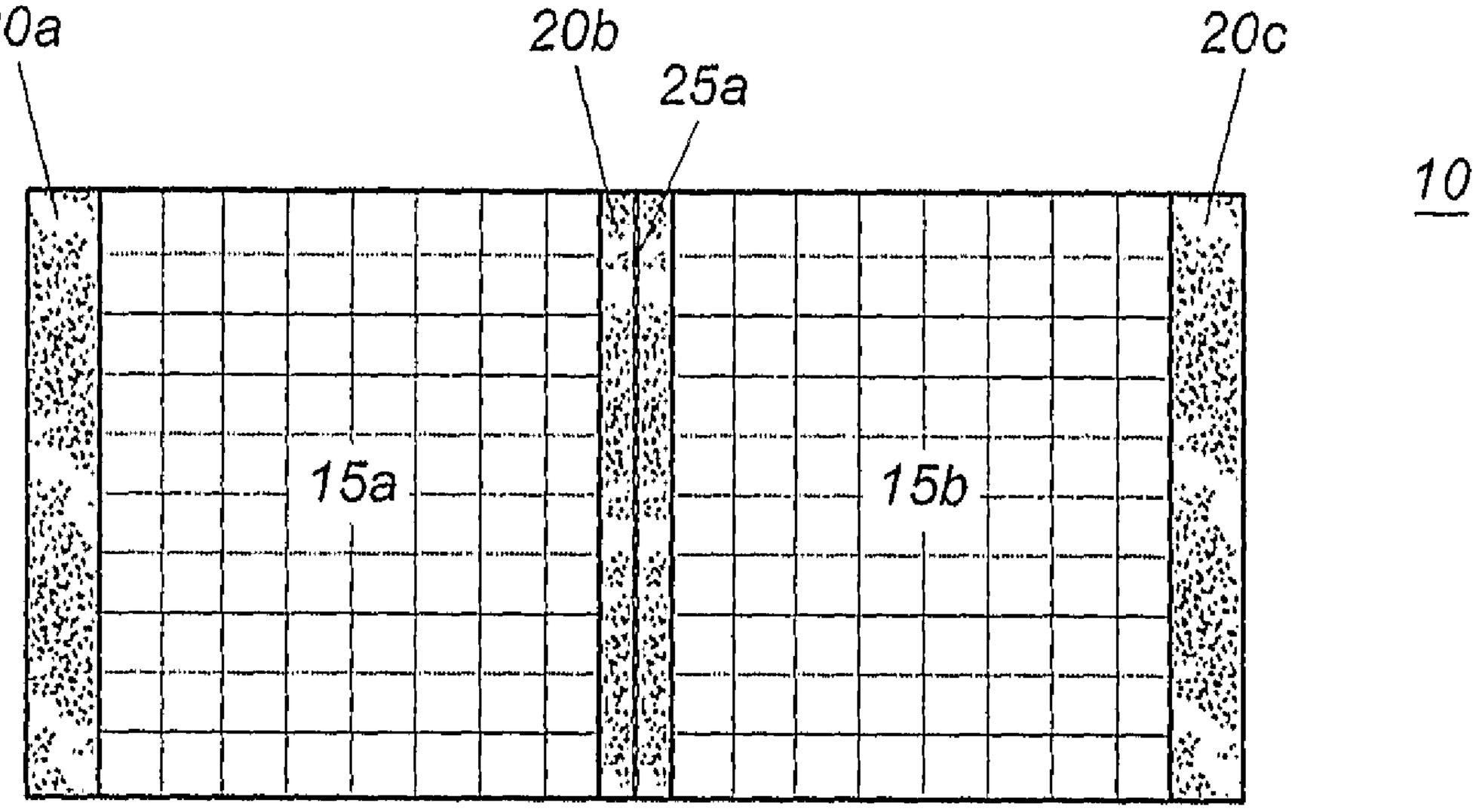

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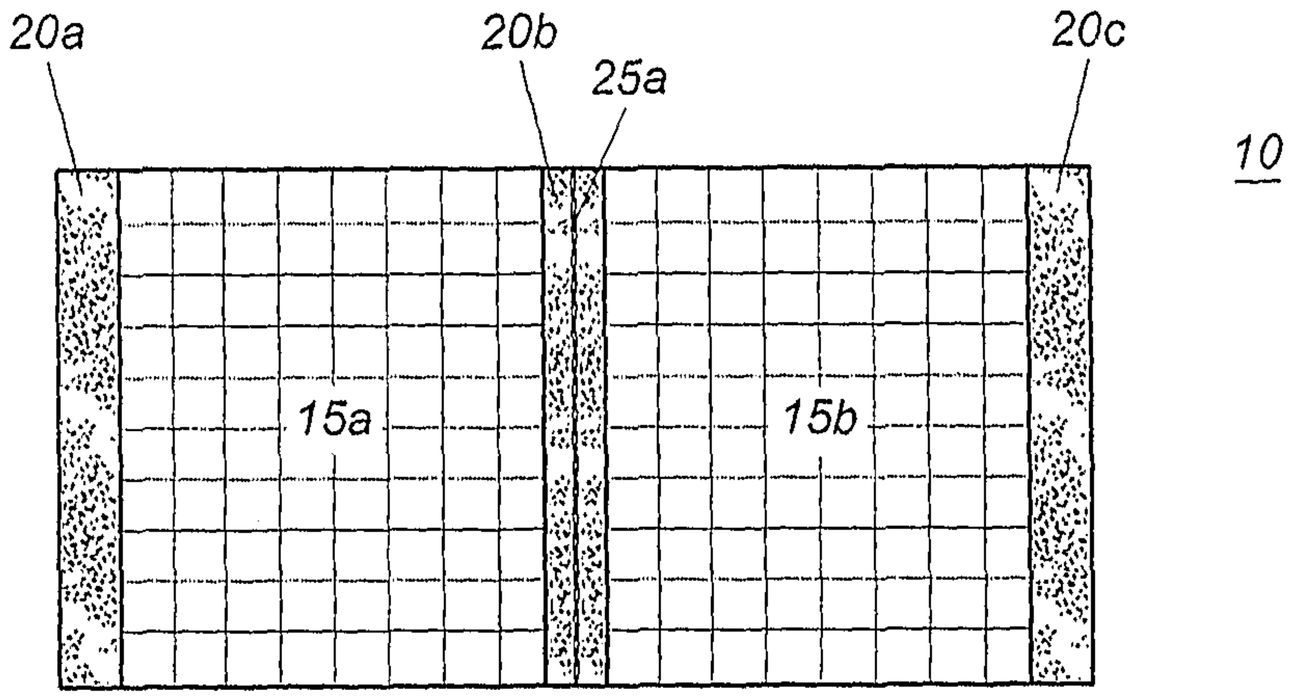

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VARIABLE SERVING SIZE INSULATED PACKAGING

BACKGROUND

Many frozen food items intended for heating in a microwave oven are packaged in cartons or other packaging that enhance the effect of the microwave energy. However, many of such food items are packaged in a single carton that cannot be reused if the user wishes to consume less than the entire amount of food in the package. In such instances, the user must heat the entire food product, consume the desired amount, and re-heat or discard the remaining product. Unfortunately, the quality of the food item reheated in another container may be compromised.

SUMMARY

Various aspects of the present invention are directed generally to a package and a method of making a package that conveniently allows a user to determine how much of the food item to heat and consume. The package includes a plurality of individual serving packages joined by a perforation or other feature that allows the individual serving packages to be separated easily.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 depicts an exemplary package that may be formed according to the present invention;

FIG. 2 depicts another exemplary package that may be formed according to the present invention;

FIG. 3 depicts yet another exemplary package that may be formed according to the present invention;

FIG. 4 depicts still another exemplary package that may be formed according to the present invention;

FIG. 5 depicts yet another exemplary package that may be formed according to the present invention;

FIG. 6 depicts another exemplary package that may be formed according to the present invention;

FIG. 7 depicts yet another exemplary package that may be formed according to the present invention;

FIG. 8 depicts still another exemplary package that may be formed according to the present invention, made from an insulating microwave material;

FIG. 9 illustrates an exemplary process that may be used to form a package that may be formed according to the present invention;

FIG. 10 illustrates another exemplary process that may be used to form a package that may be formed according to the present invention;

FIG. 11 is a cross-sectional view of an insulating microwave material that may be used with a package according to the present invention;

FIG. 12 is a cross-sectional view of an alternative insulating microwave material that may be used with a package according to the present invention;

FIG. 13 is a perspective view of the insulating microwave material of **FIG. 11**;

FIG. 14 depicts the insulating microwave material of **FIG. 13** after exposure to microwave energy;

FIG. 15 is a cross-sectional view of yet another insulating microwave material that may be used with a package according to the present invention;

FIG. 16 is a cross-sectional view of still another insulating microwave material that may be used with a package according to the present invention; and

FIG. 17 depicts an exemplary microwave energy interactive material pattern, in triplicate, that may be used with a package according to the present invention.

DESCRIPTION

The present invention may be best understood by referring to the following figures. For purposes of simplicity, like numerals may be used to describe like features. However, it should be understood use of like numerals is not to be construed as an acknowledgement or admission that such features are equivalent in any manner.

FIGS. 1 and **2** depict exemplary packages that may be formed according to the present invention. The packages **10**, **10'** include a plurality of individual servings or segments **15a**, **15b**,...**15n**. Thus, the term "package" may be used to refer to one segment or a plurality of substantially attached segments. Each segment is formed from a substantially continuous sheet of packaging material divided by seals **20a**, **20b**...**20n** that may be formed using heat, an adhesive, or any other thermal, chemical, or mechanical technique known to those of skill in the art. Within the seal, a perforation line **25a**, **25b** a tear strip (not shown), or other feature for separating the segments **15a**, **15b**,...**15n** may be provided.

As shown in **FIG. 3**, each segment **15** includes a first panel **30** and a second panel **35** joined by one or more dividing seals **20a**, **20b** and one or more end seals **45a**, **45b** along the periphery **40** of each panel. The first panel **30** and the second panel **35** may be joined using any suitable means, for example, adhesive, thermal bonding, or mechanical fastening. One or more portions of the periphery **40** may be provided with features that allow the sealed portion, for example, end seal **45a** to be opened for removal of the food from a cavity (not shown) therein. In one aspect, at least a portion

of the package includes an end portion **50** that can be opened by grasping the first panel **30** and the second panel **35** proximate the end portion **50** and pulling them apart, thereby exposing the food item inside.

In another aspect shown in **FIG. 4**, a removably adhered flap **55** may extend from the first panel **30** over an opening (not shown) to the second panel **35** for sealing the package **10**. Thus, to open such a package, the flap **55** is lifted and extended in a direction **R** away from the package **10**, thereby exposing the opening (not shown). In still another aspect shown in **FIG. 5**, such a flap **60** may extend from one portion of the first panel to another portion of the first panel. As above, such a package is opened by lifting the flap in a direction **R** away from the package. In yet another aspect, the package **10** may include a perforated tear strip **65** (**FIG. 6**) or zipper **70** (**FIG. 7**) in the first panel or the second panel. With such packages, the panel is opened by tearing of the panel along the perforation, or by pulling the tear strip, as needed. Other opening features are contemplated hereby.

By packaging a food item in a package formed according to the present invention, a consumer is able to determine how many portions he or she would like to consume. Thus, for example, a consumer may tear off one serving, two servings, or more as desired. Further, the packaging of the present invention provides convenient apportioning between multiple consumers. Thus, for example, where two people are planning to consume the food item, each can select the number of portions to heat. Further still, by dividing the total amount of food into individual servings, those wishing to monitor caloric intake are able to do so more readily. The package may provide the number of calories per serving, so the user may heat a single serving or a multiple thereof. The package may be divided into individual segments before, during, or after heating. After heating, the package may be

removed from the microwave oven. If not already separated, the package may be separated into individual segments.

If desired, the package may include features that permit each segment to be maintained in an upright configuration after opening. For example, as shown in **FIG. 8**, the package **10''** may include a first panel **30** and a second panel **35** joined along at least a portion of the periphery **40** thereof, and a third panel **75** joined to the first panel **30** along a first edge **80** and joined to the second panel **35** along a second edge **90**. When the package is opened and held in an upright position (not shown), the third panel serves as a bottom panel of the package. Such a package can be placed on a table, on the seat of a car, or in any other suitable location without toppling. The package also may include features for venting each segment.

The exemplary packages shown herein have a square or rectangle configuration and are shown to be hand-held type packages. However, it should be understood that other shapes and configurations are contemplated by the present invention. Examples of other shapes encompassed hereby include, but are not limited to, polygons, circles, ovals, cylinders, prisms, spheres, polyhedrons, and ellipsoids. The shape of the package may be determined largely by the shape of the food product, and it should be understood that different packages are contemplated for different food products, for example, sandwiches, pizzas, French fries, soft pretzels, pizza bites, cheese sticks, pastries, doughs, and so forth. Likewise, the package may include gussets, pleats, or any other feature needed or desired to accommodate a particular food item and/or portion size. Additionally, it should be understood that the present invention contemplates packages for single-serving portions and for multiple-serving portions, and is not restricted to hand-held packages. It also should be understood that various components used to form the packages of the present invention may be

interchanged. Thus, while only certain combinations are illustrated herein, numerous other combinations and configurations are contemplated hereby.

The packages of the present invention may be constructed in any suitable manner. Thus, for example, as shown in **FIG. 9**, to form a two-panel package, the first panel and the second panel may be unwound from rolls of stock material. The panels may be aligned as desired, and bonded as needed to form seals along a portion of the periphery thereof. A portion of the periphery typically is left unsealed to form an opening through which a food item can be inserted. The opening then can be sealed. It should be understood that the food may be inserted through an opening that differs from the opening used by the consumer to access the heated food item. Thus, in one example, the food item may be inserted through an opening formed by the first panel and the second panel, and may be removed through a perforation or tear strip in either the first panel or the second panel. In another example illustrated in **FIG. 10**, the package may be formed from a single roll of stock material that is subject to a folding process to create the first and second panel. The remainder of the process may be similar to that described above.

Any of the packages or cartons described herein or contemplated hereby may include features that enhance the heating or cooking of the food item. For example, any of the packages may be formed from one or more microwave energy interactive materials that promote browning and/or crisping of the food item during microwave heating. In one aspect, the interior of the package includes a microwave energy interactive material that promotes browning and/or crisping of the food item during microwave heating, for example, a susceptor material. Depending on the microwave energy interactive material selected and its positioning in the packaging, the susceptor may absorb microwave energy, transmit microwave energy, or reflect microwave energy as desired for a particular food item.

A susceptor used in accordance with the present invention may comprise a microwave energy interactive material deposited on or supported by a substrate. The microwave energy interactive material may comprise an electroconductive or semiconductive material. According to one aspect of the present invention, the microwave energy interactive material may comprise a metal or a metal alloy provided as a metal foil; a vacuum deposited metal or metal alloy; or a metallic ink, an organic ink, an inorganic ink, a metallic paste, an organic paste, an inorganic paste, or any combination thereof. Examples of metals and metal alloys that may be suitable for use with the present invention include, but are not limited to, aluminum, chromium, copper, inconel alloys (nickel-chromium-molybdenum alloy with niobium), iron, magnesium, nickel, stainless steel, tin, titanium, tungsten, and any combination thereof.

While metals are inexpensive and easy to obtain in both vacuum deposited or foil forms, metals may not be suitable for every application. For example, in high vacuum deposited thickness and in foil form, metals are opaque to visible light and may not be suitable for forming a clear microwave package or component. Further, the interactive properties of such vacuum deposited metals for heating often are limited to heating for narrow ranges of heat flux and temperature. Such materials therefore may not be optimal for heating, browning, and crisping all food items. Additionally, for field management uses, metal foils and vacuum deposited coatings can be difficult to handle and design into packages, and can lead to arcing at small defects in the structure.

If desired, the microwave interactive energy material may comprise a metal oxide. Examples of metal oxides that may be suitable for use with the present invention include, but are not limited to, oxides of aluminum, iron, and tin, used in conjunction with an electrically conductive material where needed. Another example of a metal oxide that may be suitable for

use with the present invention is indium tin oxide (ITO). ITO can be used as a microwave energy interactive material to provide a heating effect, a shielding effect, or a combination thereof. To form the susceptor, ITO typically is sputtered onto a clear polymeric film. The sputtering process typically occurs at a lower temperature than the evaporative deposition process used for metal deposition. ITO has a more uniform crystal structure and, therefore, is clear at most coating thicknesses. Additionally, ITO can be used for either heating or field management effects. ITO also may have fewer defects than metals, thereby making thick coatings of ITO more suitable for field management than thick coatings of metals, such as aluminum.

Alternatively, the microwave energy interactive material may comprise a suitable electroconductive, semiconductive, or non-conductive artificial dielectric or ferroelectric. Artificial dielectrics comprise conductive, subdivided material in a polymeric or other suitable matrix or binder, and may include flakes of an electroconductive metal, for example, aluminum.

The substrate used in accordance with the present invention typically comprises an electrical insulator, for example, a polymeric film. The thickness of the film may typically be from about 35 gauge to about 10 mil. In one aspect, the thickness of the film is from about 40 to about 80 gauge. In another aspect, the thickness of the film is from about 45 to about 50 gauge. In still another aspect, the thickness of the film is about 48 gauge. Examples of polymeric films that may be suitable include, but are not limited to, polyolefins, polyesters, polyamides, polyimides, polysulfones, polyether ketones, cellophanes, or any combination thereof. Other non-conducting substrate materials such as paper and paper laminates, metal oxides, silicates, cellulosics, or any combination thereof, also may be used.

According to one aspect of the present invention, the polymeric film may comprise polyethylene terephthalate. Examples of polyethylene terephthalate film that may be suitable for use as the substrate include, but are not limited to, MELINEX®, commercially available from DuPont Teijan Films (Hopewell, Virginia), and SKYROL, commercially available from SKC, Inc. (Covington, Georgia). Polyethylene terephthalate films are used in commercially available susceptors, for example, the QWIK WAVE® Focus susceptor and the MICRO-RITE® susceptor, both available from Graphic Packaging International (Marietta, Georgia).

According to another aspect of the present invention, the package may include materials that provide a water barrier, oxygen barrier, or a combination thereof. Such barrier layers may be formed from a polymer film having barrier properties or from any other barrier layer or coating as desired. Suitable polymer films may include, but are not limited to, ethylene vinyl alcohol, barrier nylon, polyvinylidene chloride, barrier fluoropolymer, nylon 6, nylon 66, coextruded nylon 6/EVOH/nylon 6, silicon oxide coated film, or any combination thereof.

One example of a barrier film that may be suitable for use with the present invention is CAPRAN® EMBLEM 1200M nylon 6, commercially available from Honeywell International (Pottsville, Pennsylvania). Another example of a barrier film that may be suitable is CAPRAN® OXYSHIELD OBS monoaxially oriented coextruded nylon 6/ethylene vinyl alcohol (EVOH)/nylon 6, also commercially available from Honeywell International. Yet another example of a barrier film that may be suitable for use with the present invention is DARTEK® N-201 nylon 6,6, commercially available from Enhance Packaging Technologies (Webster, New York).

Still other barrier films include silicon oxide coated films, such as those available from Sheldahl Films (Northfield, Minnesota). Thus, in one aspect, a susceptor may have a structure including a film, for example, polyethylene terephthalate, with a layer of silicon oxide coated onto the film, and ITO or other material deposited over the silicon oxide. If needed or desired, additional layers or coatings may be provided to shield the individual layers from damage during processing.

The barrier film may have an oxygen transmission rate (OTR) as measured using ASTM D3985 of less than about 20 cc/m^2/day. In one aspect, the barrier film has an OTR of less than about 10 cc/m^2/day. In another aspect, the barrier film has an OTR of less than about 1 cc/m^2/day. In still another aspect, the barrier film has an OTR of less than about 0.5 cc/m^2/day. In yet another aspect, the barrier film has an OTR of less than about 0.1 cc/m^2/day.

The barrier film may have a water vapor transmission rate (WVTR) as measuring using ASTM F1249 of less than about 100 g/m^2/day. In one aspect, the barrier film has a water vapor transmission rate (WVTR) as measuring using ASTM F1249 of less than about 50 g/m^2/day. In another aspect, the barrier film has a WVTR of less than about 15 g/m^2/day. In yet another aspect, the barrier film has a WVTR of less than about 1 g/m^2/day. In still another aspect, the barrier film has a WVTR of less than about 0.1 g/m^2/day. In a still further aspect, the barrier film has a WVTR of less than about 0.05 g/m^2/day.

The microwave energy interactive material may be applied to the substrate in any suitable manner, and in some instances, the microwave energy interactive material is printed on, extruded onto, sputtered onto, evaporated on, or laminated to the substrate. The microwave energy interactive material may be applied to the substrate in any pattern, and using any technique, to achieve the desired heating effect of the food item.

For example, the microwave energy interactive material may be provided as a continuous or discontinuous layer or coating, circles, loops, hexagons, islands, squares, rectangles, octagons, and so forth. Examples of alternative patterns and methods that may be suitable for use with the present invention are provided in U.S. Patent Nos. 6,765,182; 6,717,121; 6,677,563; 6,552,315; 6,455,827; 6,433,322; 6,414,290; 6,251,451; 6,204,492; 6,150,646; 6,114,679; 5,800,724; 5,759,422; 5,672,407; 5,628,921; 5,519,195; 5,424,517; 5,410,135; 5,354,973; 5,340,436; 5,266,386; 5,260,537; 5221,419; 5,213,902; 5,117,078; 5,039,364; 4,963,424; 4,936,935; 4,890,439; 4,775,771; 4,865,921, and Re. 34,683; each of which is incorporated by reference herein in its entirety. Although particular examples of the microwave energy interactive material are shown and described herein, it should be understood that other patterns of microwave energy interactive material are contemplated by the present invention.

The susceptor then may be laminated to the material that forms the package, for example, a paper or paperboard. The paperboard may have a thickness of about 8 to about 28 mils. In one aspect, the paperboard support has a thickness of about 10 to about 20 mils. In another aspect, the paperboard support has a thickness of about 13 mils.

If desired, the package may be coated or laminated with other materials to impart other properties, such as absorbency, repellency, opacity, color, printability, stiffness, or cushioning. Absorbent susceptors are described in U.S. Provisional Patent Application Serial No. 60/604,637, filed August 25, 2004, incorporated herein by reference in its entirety. Additionally, the support may include graphics or indicia printed thereon.

In another aspect of the present invention, the package includes an insulating microwave material. As used herein, an "insulating microwave material" refers to any arrangement of layers, such as polyester layers, susceptor layers, polymer layers, paper layers, continuous and

discontinuous adhesive layers, and patterned adhesive layers that provide an insulating effect. The package may include one or more susceptors, one or more expandable insulating cells, or a combination of susceptors and expandable insulating cells. Examples of materials that may be suitable, alone or in combination, include, but are not limited to, are QwikWave® Susceptor packaging material, QwikWave® Focus® packaging material, Micro-Rite® packaging material, MicroFlex® Q packaging material, and QuiltWave™ Susceptor packaging material, each of which is commercially available from Graphic Packaging International, Inc. For example, **FIG. 8** depicts a package using an insulting microwave material with expandable cells. However, any of such materials described above or other insulating materials may be used to form all or a portion of the packages shown in **FIGS. 1-8** or contemplated hereby. Examples of such materials are described in PCT Application No. PCT/US03/03779, incorporated by reference herein in its entirety.

In one aspect of the present invention, the insulating microwave material includes at least one susceptor. By using an insulating microwave material with a susceptor, more of the sensible heat generated by the susceptor is transferred to the surface of the food product rather than to the microwave oven environment. Without the insulating material, some or all the heat generated by the susceptor may be lost via conduction to the surrounding air and other conductive media, such as the microwave oven floor or turntable. Thus, more of the sensible heat generated by the susceptor is directed to the food product and browning and crisping is enhanced. Furthermore, insulating microwave materials may retain moisture in the food item when cooking in the microwave oven, thereby improving the texture and flavor of the food item.

Various exemplary insulating materials are depicted in **FIGS. 11-16**. In each of the examples shown herein, it should be understood that the layer widths are not necessarily shown in perspective. In some instances, for example, the adhesive layers may be very thin with respect to other layers, but are nonetheless shown with some thickness for purposes of clearly illustrating the arrangement of layers.

Referring to **FIG. 11**, the material **100** may be a combination of several different layers. A susceptor, which typically includes a thin layer of microwave interactive material **105** on a first plastic film **110**, is bonded for example, by lamination with an adhesive **112**, to a dimensionally stable substrate **115**, for example, paper. The substrate **115** is bonded to a second plastic film **120** using a patterned adhesive **125** or other material, such that closed cells **130** are formed in the material **100**. The closed cells **130** are substantially resistant to vapor migration.

Optionally, an additional substrate layer **135** may be adhered by adhesive **140** or otherwise to the first plastic film **110** opposite the microwave interactive material **105**, as depicted in **FIG. 12**. The additional substrate layer **135** may be a layer of paper or any other suitable material, and may be provided to shield the food item (not shown) from any flakes of susceptor film that craze and peel away from the substrate during heating. The insulating material **100** provides a substantially flat, multi-layered sheet **150**, as shown in **FIG. 13**.

FIG. 14 depicts the exemplary insulating material **150** of **FIG. 13** after being exposed to microwave energy from a microwave oven (not shown). As the susceptor heats upon impingement by microwave energy, water vapor and other gases normally held in the substrate **115**, for example, paper, and any air trapped in the thin space between the second plastic film **120** and the substrate **115** in the closed cells **130**, expand. The expansion of water vapor and air in the closed cells **130** applies pressure on

the susceptor film **110** and the substrate **115** on one side and the second plastic film **120** on the other side of the closed cells **130**. Each side of the material **100** forming the closed cells **130** reacts simultaneously, but uniquely, to the heating and vapor expansion. The cells **130** expand or inflate to form a quilted top surface **160** of pillows separated by channels (not shown) in the susceptor film **110** and substrate **115** lamination, which lofts above a bottom surface **165** formed by the second plastic film **120**. This expansion may occur within 1 to 15 seconds in an energized microwave oven, and in some instances, may occur within 2 to 10 seconds.

FIGS. 15 and **16** depict alternative exemplary microwave insulating material layer configurations that may be suitable for use with any of the various packages of the present invention. Referring first to **FIG. 15**, an insulating microwave material **200** is shown with two symmetrical layer arrangements adhered together by a patterned adhesive layer. The first symmetrical layer arrangement, beginning at the top of the drawings, comprises a PET film layer **205**, a metal layer **210**, an adhesive layer **215**, and a paper or paperboard layer **220**. The metal layer **210** may comprise a metal, such as aluminum, deposited along a portion or all of the PET film layer **205**. The PET film **205** and metal layer **210** together define a susceptor. The adhesive layer **215** bonds the PET film **205** and the metal layer **210** to the paperboard layer **220**.

The second symmetrical layer arrangement, beginning at the bottom of the drawings, also comprises a PET film layer **225**, a metal layer **230**, an adhesive layer **235**, and a paper or paperboard layer **240**. If desired, the two symmetrical arrangements may be formed by folding one layer arrangement onto itself. The layers of the second symmetrical layer arrangement are bonded together in a similar manner as the layers of the first symmetrical arrangement. A patterned adhesive layer **245** is provided between the two paper layers **220** and **240**, and defines a pattern of closed cells **250**

configured to expand when exposed to microwave energy. In one aspect, an insulating material **200** having two metal layers **210** and **230** according to the present invention generates more heat and greater cell loft.

Referring to **FIG. 16**, yet another insulating microwave material **200** is shown. The material **200** may include a PET film layer **205**, a metal layer **210**, an adhesive layer **215**, and a paper layer **220**. Additionally, the material **200** may include a clear PET film layer **225**, an adhesive **235**, and a paper layer **240**. The layers are adhered or affixed by a patterned adhesive **245** defining a plurality of closed expandable cells **250**.

It will be understood by those of skill in the art that in any of the packages contemplated hereby, the microwave insulating material may include an adhesive pattern that is selected to enhance cooking of a particular food item. For example, where the food item is a single item, for example, a sandwich, the adhesive pattern may be selected to form substantially uniformly shaped expandable cells. Where the food item is a plurality of small items, for example, French fries or tater tots, the adhesive pattern may be selected to form a plurality of different sized cells to allow the individual items to be variably contacted on their upper and side surfaces. An example of one such pattern **300** is illustrated in triplicate in **FIG. 17**. The pattern **300** includes a plurality of hexagons **305** and a plurality of circles **310** arranged in groups of concentric circles **315**. While such examples are provided herein, it will be understood that numerous patterns are contemplated hereby, and the pattern selected will depend on the heating, browning, crisping, and insulating needs of the particular food item and package.

Advantageously, the segments may be packaged and provided to a retailer or consumer in any suitable manner. In one aspect, the package may be provided to the consumer as is, that is, without any additional packaging. In another aspect, the package may be provided to the retailer

or consumer within an overwrap, for example, a plastic film package. In yet another aspect, the package may be provided to the retailer or consumer in a carton, for example, a paperboard carton. In any of such aspects, the package may be situated as a "roll" of segments, as a folded stack, as a stack of one or more attached segments, or in any other suitable manner. Thus, the segments and/or package may be configured in any manner desired for aesthetic purposes, to minimize waste, or to optimize manufacturing of the package. For example, a single manufacturing line may be used to prepare cartons including two segments, four segments, and so forth. This provides significant manufacturing benefits over commercially available packages and packaging methods.

Where the package is placed within a carton, the carton may include features that allow for easy dispensing of individual segments. For example, one or more sides of a carton may include a removable panel through which a single segment can be removed. The segments may be attached to other segments or may be stacked as individual segments, as desired. Numerous package and carton configurations are contemplated hereby.

Accordingly, it will be readily understood by those persons skilled in the art that, in view of the above detailed description of the invention, the present invention is susceptible of broad utility and application. Many adaptations of the present invention other than those herein described, as well as many variations, modifications, and equivalent arrangements will be apparent from or reasonably suggested by the present invention and the above detailed description thereof, without departing from the substance or scope of the present invention.

While the present invention is described herein in detail in relation to specific aspects, it is to be understood that this detailed description is only illustrative and exemplary of the present invention and is made merely for purposes of providing a full and enabling disclosure of the present invention. The detailed description set forth herein is not intended nor is to be construed to limit the present invention or otherwise to exclude any such other embodiments, adaptations, variations, modifications, and equivalent arrangements of the present invention.

What is claimed is:

1. A package for heating a microwave food item comprising:

a plurality of separably joined package segments, each package segment including a pair of adjoined panels that define a cavity,

wherein at least a portion of each package segment comprises a microwave energy interactive insulating material including a plurality of expandable cells that inflate in response to microwave energy.

2. The package of claim 1, wherein each package segment is separably joined to at least one adjacent package segment by a perforated line.

3. The package of claim 1, wherein each package segment is separably joined to at least one adjacent package segment by a tear strip.

4. The package of claim 1, wherein at least one of the separably joined package segments comprises an opening feature.

5. The package of claim 4, wherein the opening feature comprises a removably adhered flap extending from a first panel of the pair of adjoined panels over an opening to a second panel of the pair of adjoined panels.

6. The package of claim 4, wherein the opening feature comprises a tear strip in at least one of the pair of adjoined panels.

7. The package of claim 1, wherein the package can be opened by grasping the adjoined panels and pulling them apart.

8. The package of claim 1, wherein

the pair of adjoined panels includes a first panel and a second panel,

at least one package segment further comprises a third panel having a first edge and a second edge,

the third panel is joined to the first panel along the first edge, and

the third panel is joined to the second panel along the second edge.

9. The package of claim 8, wherein the third panel serves as a base for supporting the package in an upright configuration.

10. The package of claim 8, wherein the first edge and the second edge of the third panel are arcuate in shape and joined to one another proximate to respective end points.

11. The package of claim 1, wherein the microwave energy interactive insulating material comprises:

a layer of microwave energy interactive material supported on a first polymer film,

a moisture-containing layer superposed with the layer of microwave energy interactive material, and

a second polymer film joined to the moisture-containing layer in a predetermined pattern, thereby forming the plurality of expandable cells.

12. The package of claim 11, wherein the microwave energy interactive material comprises aluminum, indium tin oxide, or any combination thereof.

13. The package of claim 11, wherein at least one of the first polymer film and the second polymer film comprises a barrier material.

14. The package of claim 11, used by the method comprising:
selecting a desired number of package segments to be heated,
separating the desired number of package segments from the package, and
heating the desired serving in a microwave oven.

15. The package of claim 11, used by the method comprising:
selecting a number of package segments to be included in a desired serving, and
separating the number of package segments in the desired serving.

16. The package of claim 11, used by the method comprising:
selecting a number of package segments to be included in a desired serving,
separating the number of package segments in the desired serving, and
heating the package segments in a microwave oven after separating the number of package segments into the desired serving.

17. The package of claim 11, used by the method comprising:
selecting a number of package segments to be included in a desired serving,
heating the package segments in a microwave oven, and
separating the number of package segments in the desired serving after heating the package segments in a microwave oven.

18. The package of claim 1 in combination with a carton, wherein the carton comprises a plurality of walls and an opening through which one or more separably joined package segments can be removed.

19. The package of claim 1 in combination with a carton, wherein
the carton comprises a plurality of walls and an opening through which one or more package segments can be removed, and
the package segments are arranged in a stacked configuration.

20. The package of claim 1 in combination with a carton, wherein

the carton comprises a plurality of walls and an opening through which one or more package segments can be removed, and

the package segments are arranged in a rolled configuration.

21. A multi-serving microwavable package for browning and/or crisping a food item, comprising:

a plurality of separably joined, single-serving package segments, each being formed at least partially from a microwave energy interactive insulating material including

a metallized film at least partially joined to a moisture-containing layer, and

a polymer film joined to the moisture-containing layer in a patterned configuration that defines a plurality of expandable closed cells between the moisture-containing layer and the polymer film.

22. The microwavable package of claim 21, wherein each of the plurality of single-serving package segments is joined separably to an adjacent package segment along a line of perforation.

23. The microwavable package of claim 21, wherein each of the plurality of single-serving package segments is joined separably to an adjacent package segment along a tear strip.

24. The microwavable package of claim 21, wherein at least some of the plurality of expandable closed cells inflate upon exposure to microwave energy.

25. A plurality of microwave energy interactive food package segments joined along respective lines of perforation, wherein

each package segment is formed at least partially from a microwave energy interactive insulating material comprising:

a microwave energy interactive material supported on a first polymer film,

a moisture-containing layer in a facing relation to the microwave energy interactive material, and

a second polymer film layer joined to the moisture-containing layer in a predetermined pattern, thereby forming a plurality of closed cells between the moisture-containing layer and the second polymer film, and

at least some of the closed cells inflate upon exposure to microwave energy.

a polymeric film adhesively joined to the moisture-containing support layer in a patterned configuration that defines a plurality of expandable closed cells.

22. The microwavable package of claim 21, wherein each of the plurality of single-serving package segments is joined separably to an adjacent package segment along a line of perforation.

23. The microwavable package of claim 21, wherein each of the plurality of single-serving package segments is joined separably to an adjacent package segment along a tear strip.

24. The microwavable package of claim 21, wherein the plurality of expandable closed cells inflate upon exposure to microwave energy.

25. A packaging system comprising a carton for housing a plurality of separably joined package segments, the carton including an opening through which one or more of the plurality of separably joined package segments can be removed, wherein:

each of the plurality of separably joined package segments includes a cavity defined by at least a first panel and a second panel joined along at least a portion of a periphery of each thereof, and

at least a portion of each segment is formed from an microwave energy interactive insulating material.

26. The packaging system of claim 25, wherein the separably joined package segments are arranged in a folded stack configuration.

27. A method of providing a variable serving size food item, comprising:

providing a plurality of separably joined package segments, each package segment comprising a first panel and a second panel joined along at least a portion of a periphery of each thereof, the first panel and second panel defining a cavity therebetween, wherein at least a portion of each package segment comprises a microwave energy interactive insulating material;

selecting the number of package segments to be provided in each serving; and

separating the package segments into the selected serving size.

28. The method of claim 27, further comprising heating at least one package segment in a microwave oven after separating the package segment from the plurality of separably joined package segments.

29. The method of claim 27, further comprising heating the separably joined package segments in a microwave oven before separating the package segments into the selected serving size.

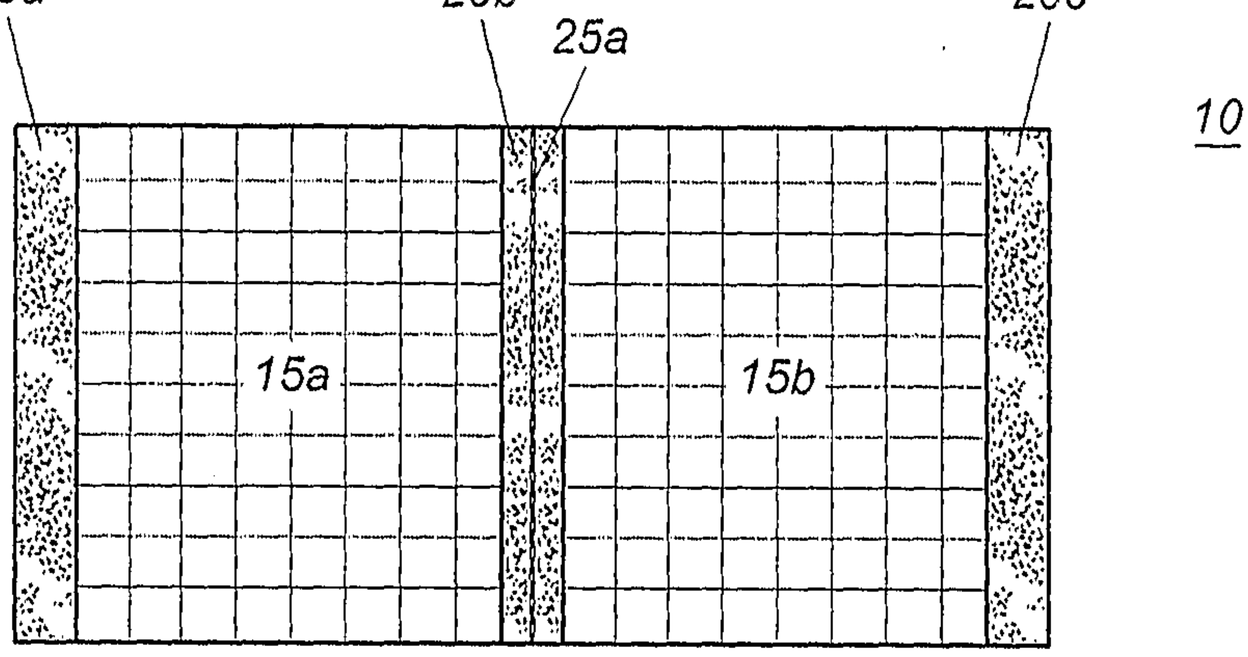
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Fig. 1

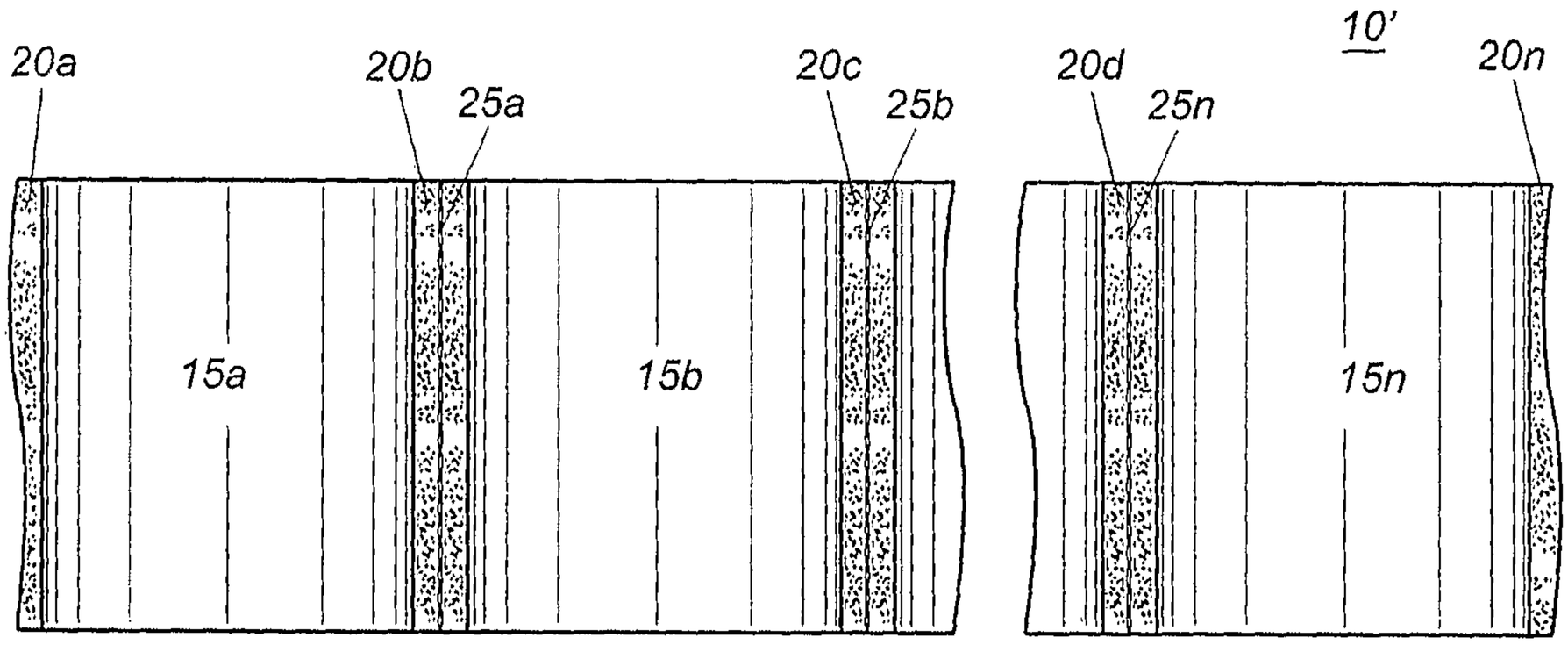
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Fig. 2

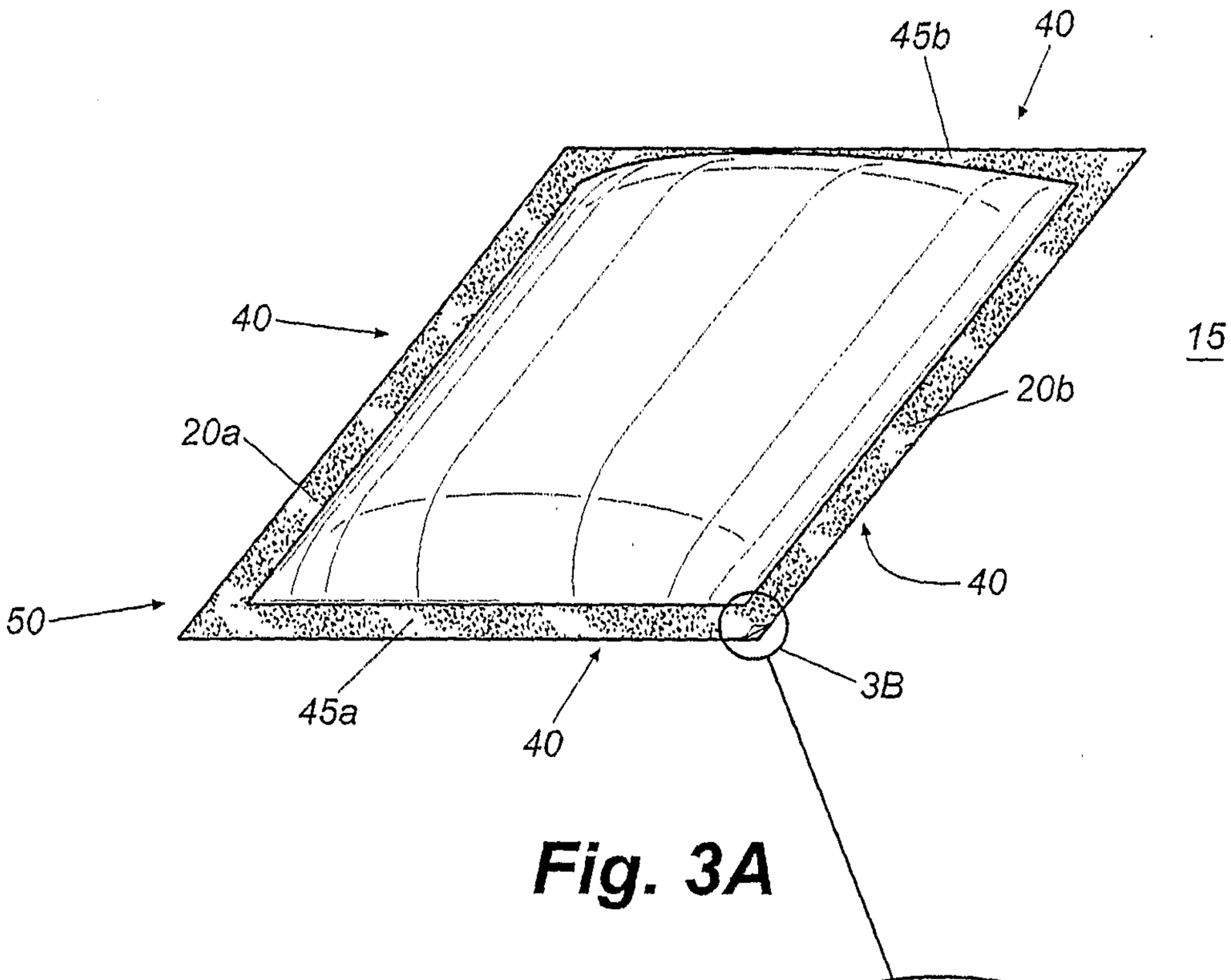


Fig. 3A

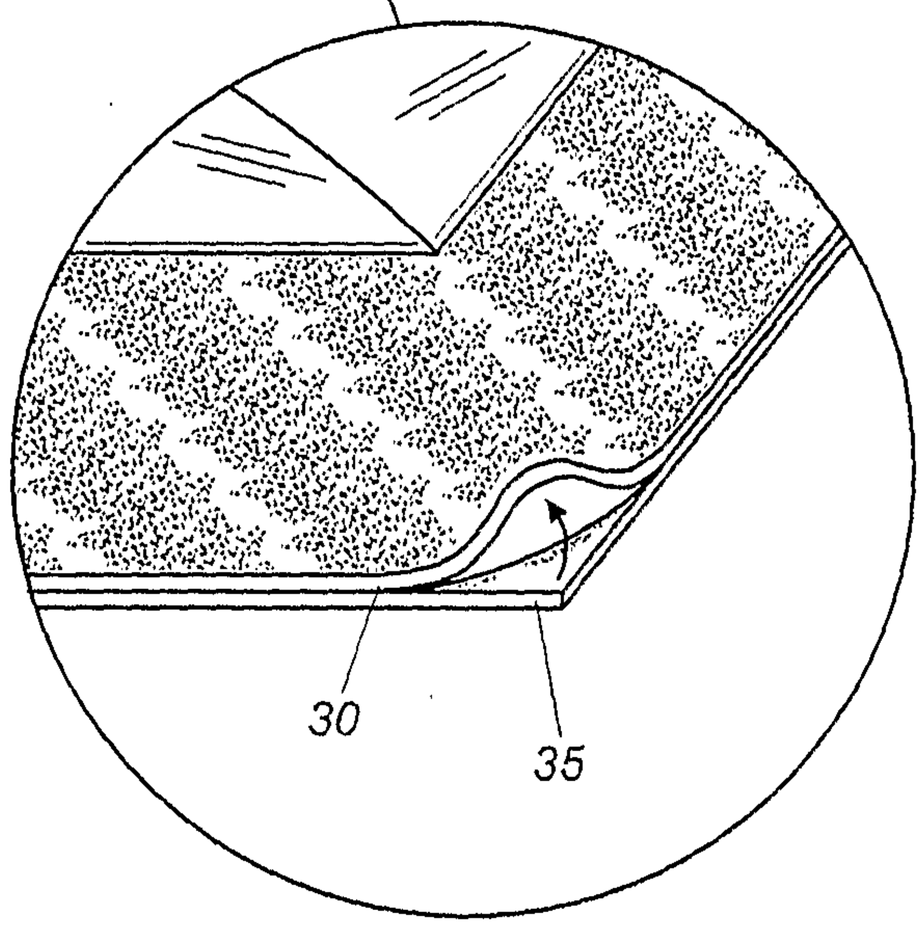


Fig. 3B

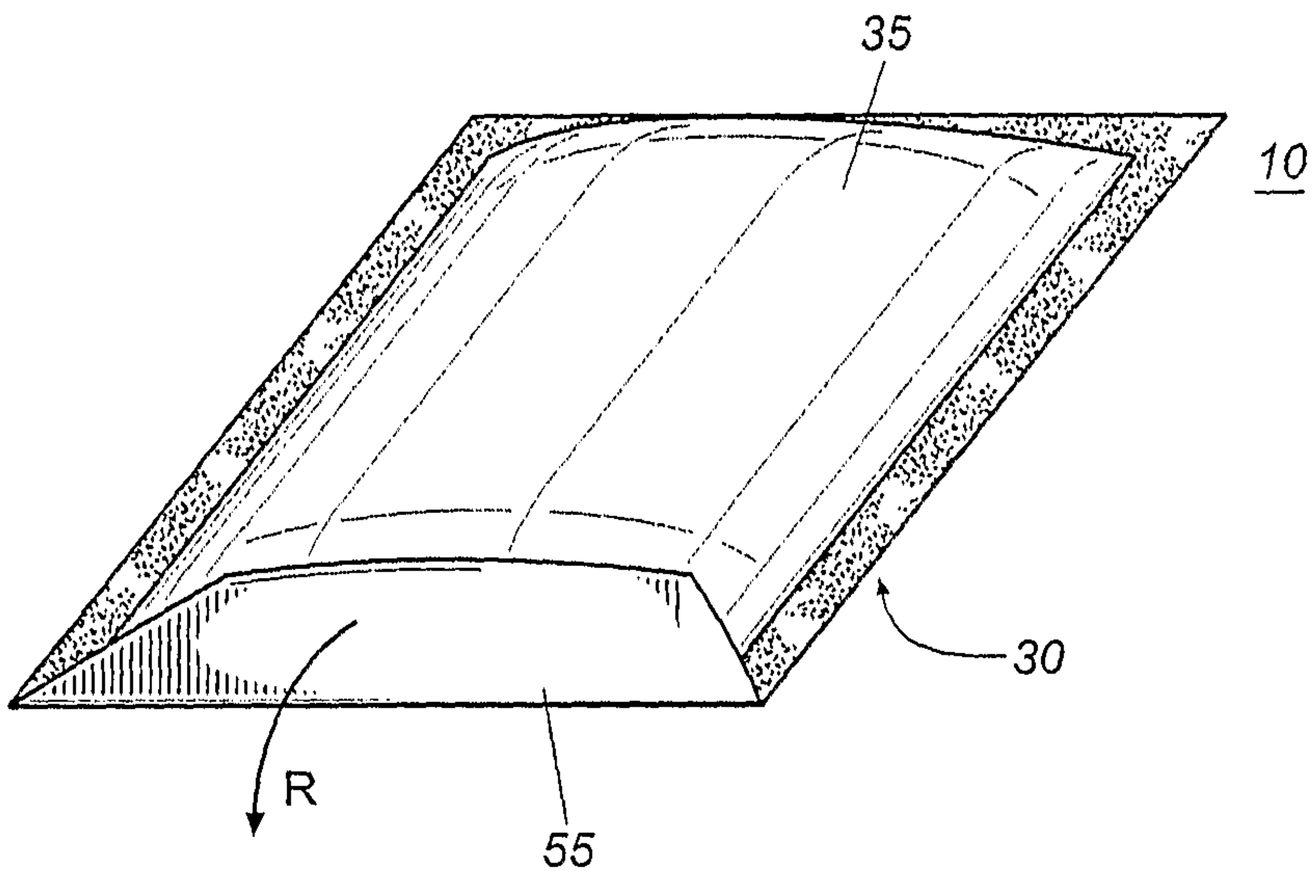


Fig. 4

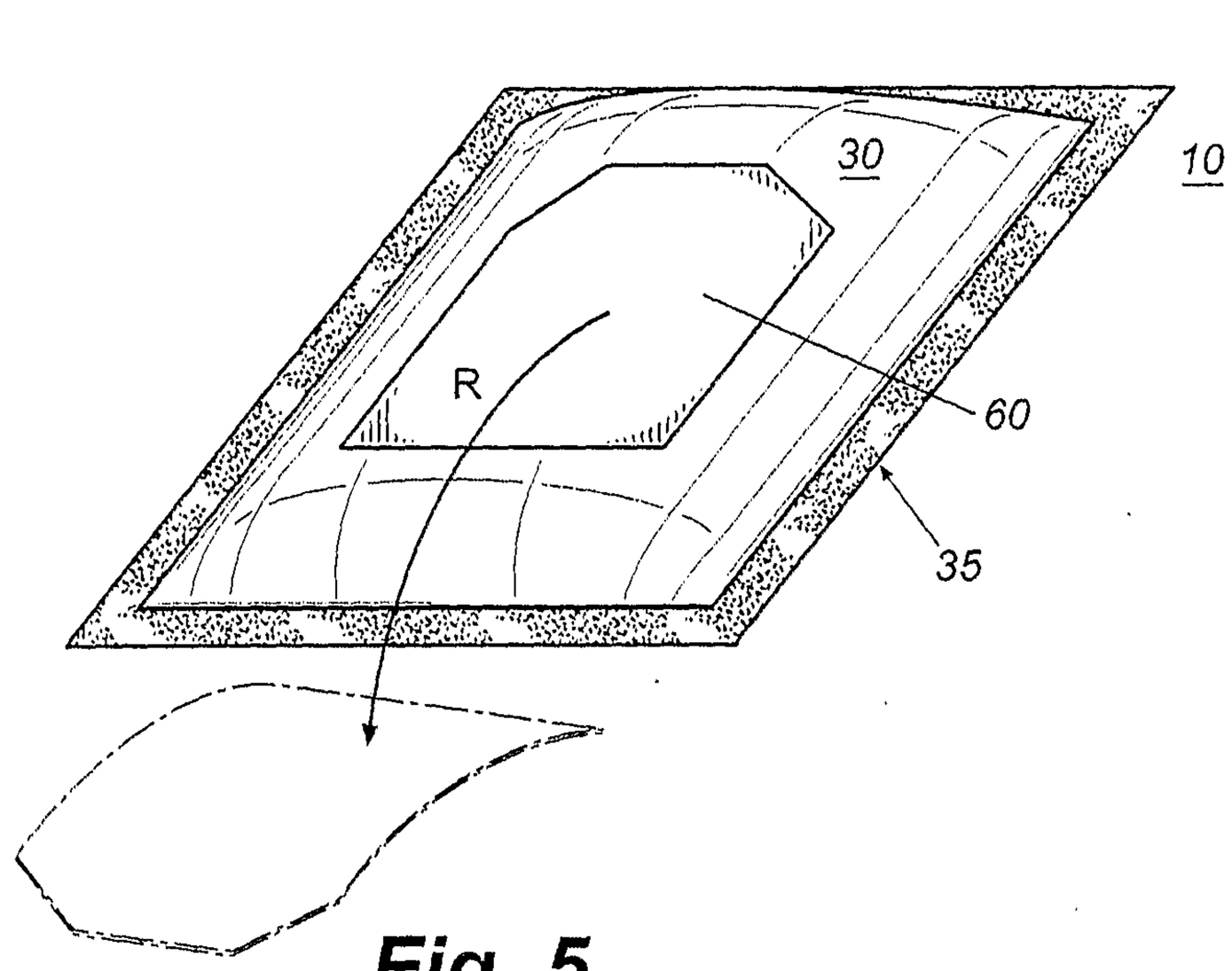


Fig. 5

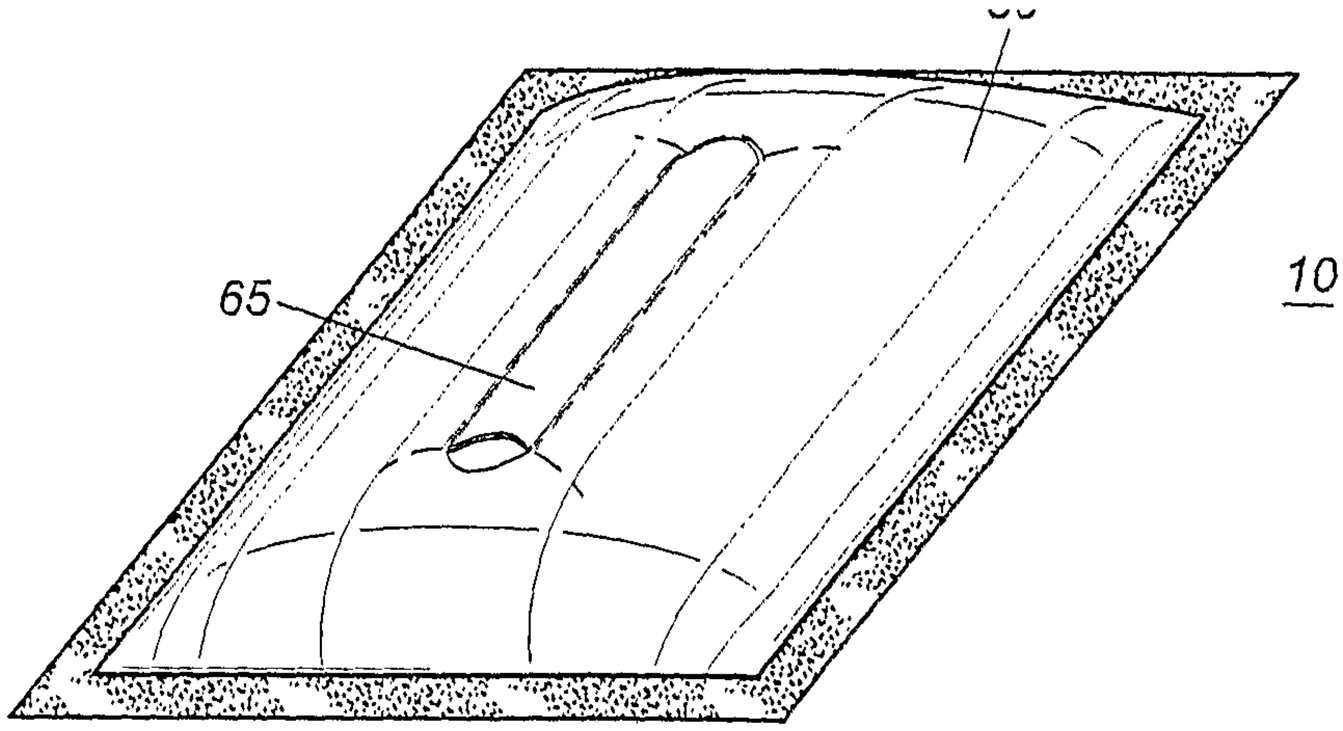


Fig. 6

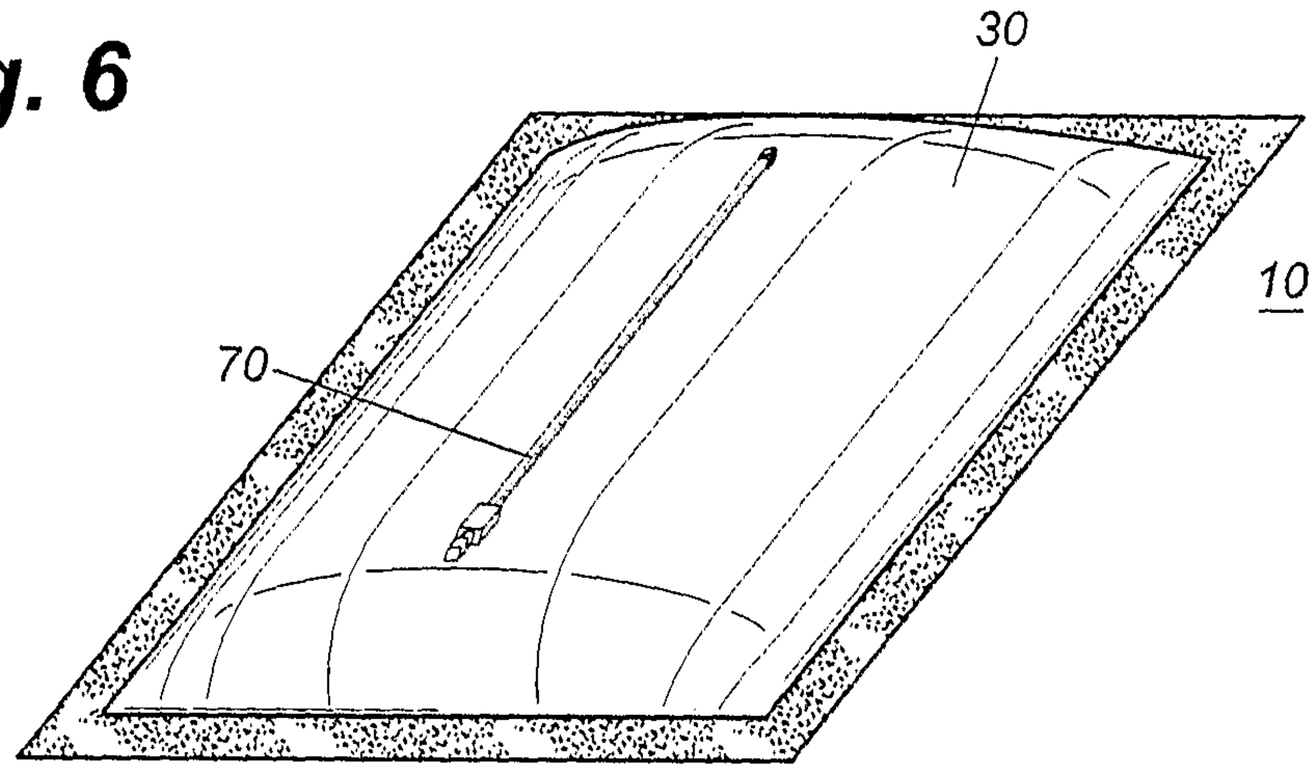


Fig. 7

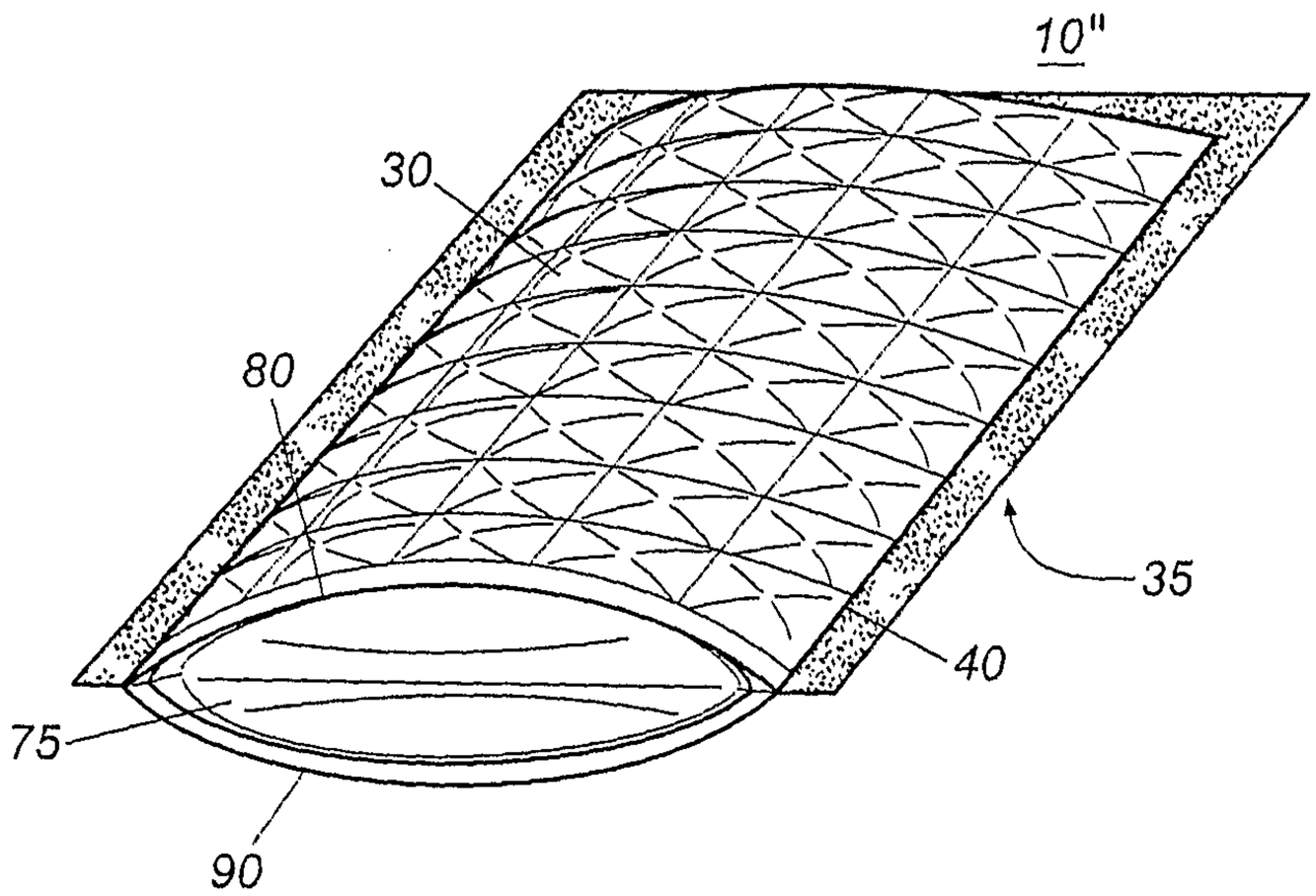
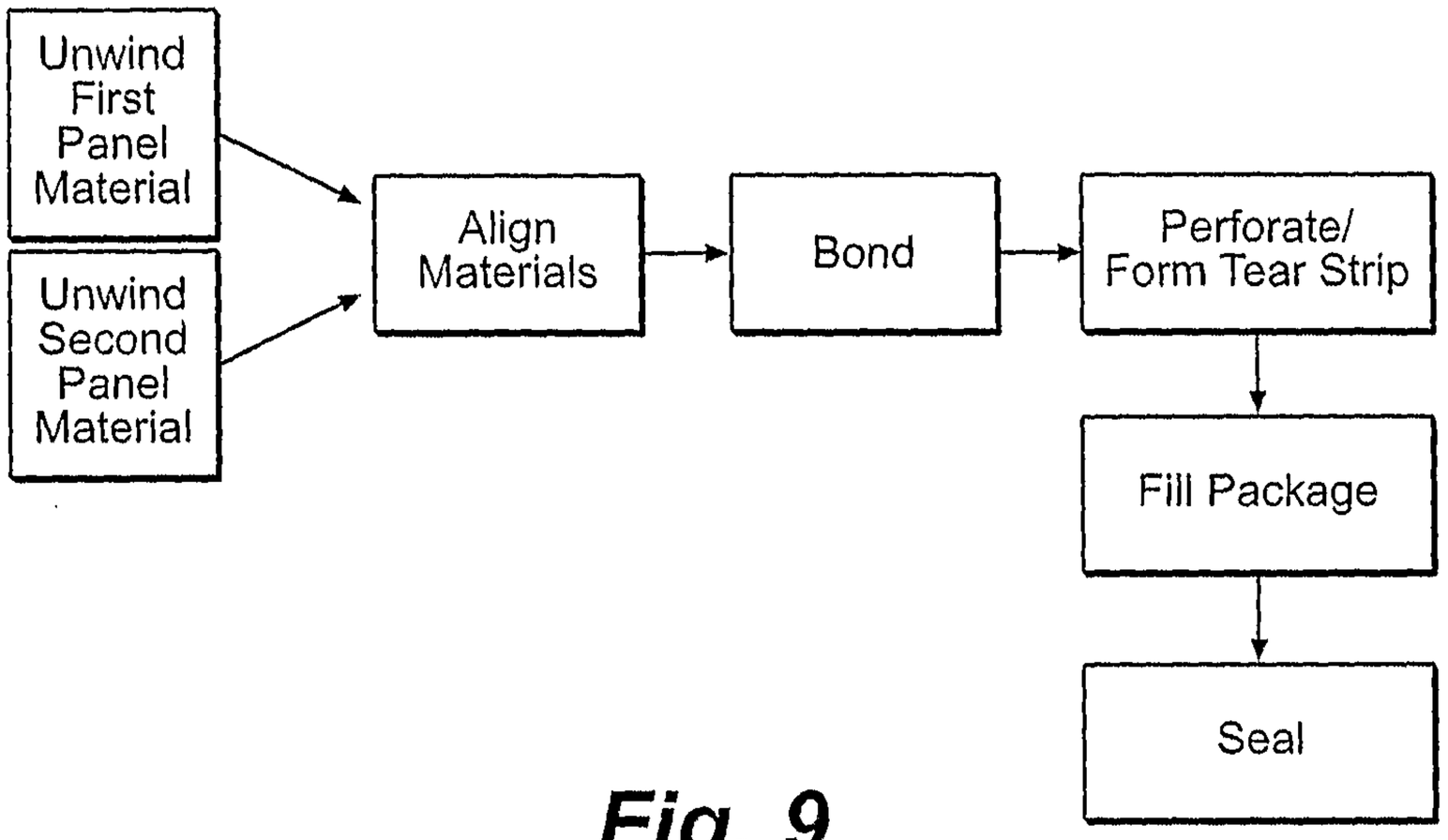


Fig. 8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Unwind Second Panel Material
Align Materials
Bond
Perforate/ Form Tear Strip
Fill Package
Seal

Fig. 9

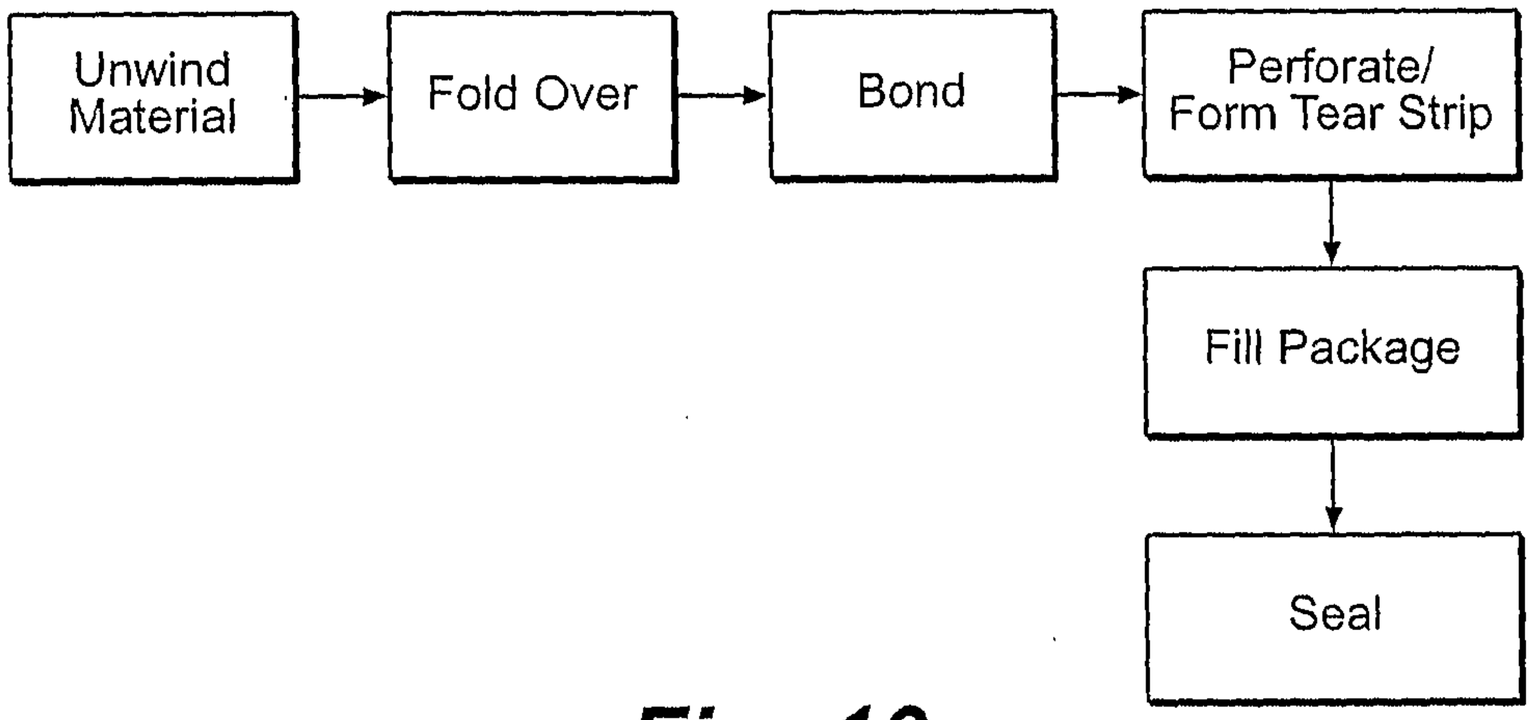
Unwind Material
Fold Over
Bond
Perforate/ Form Tear Strip
Fill Package
Seal

Fig. 10

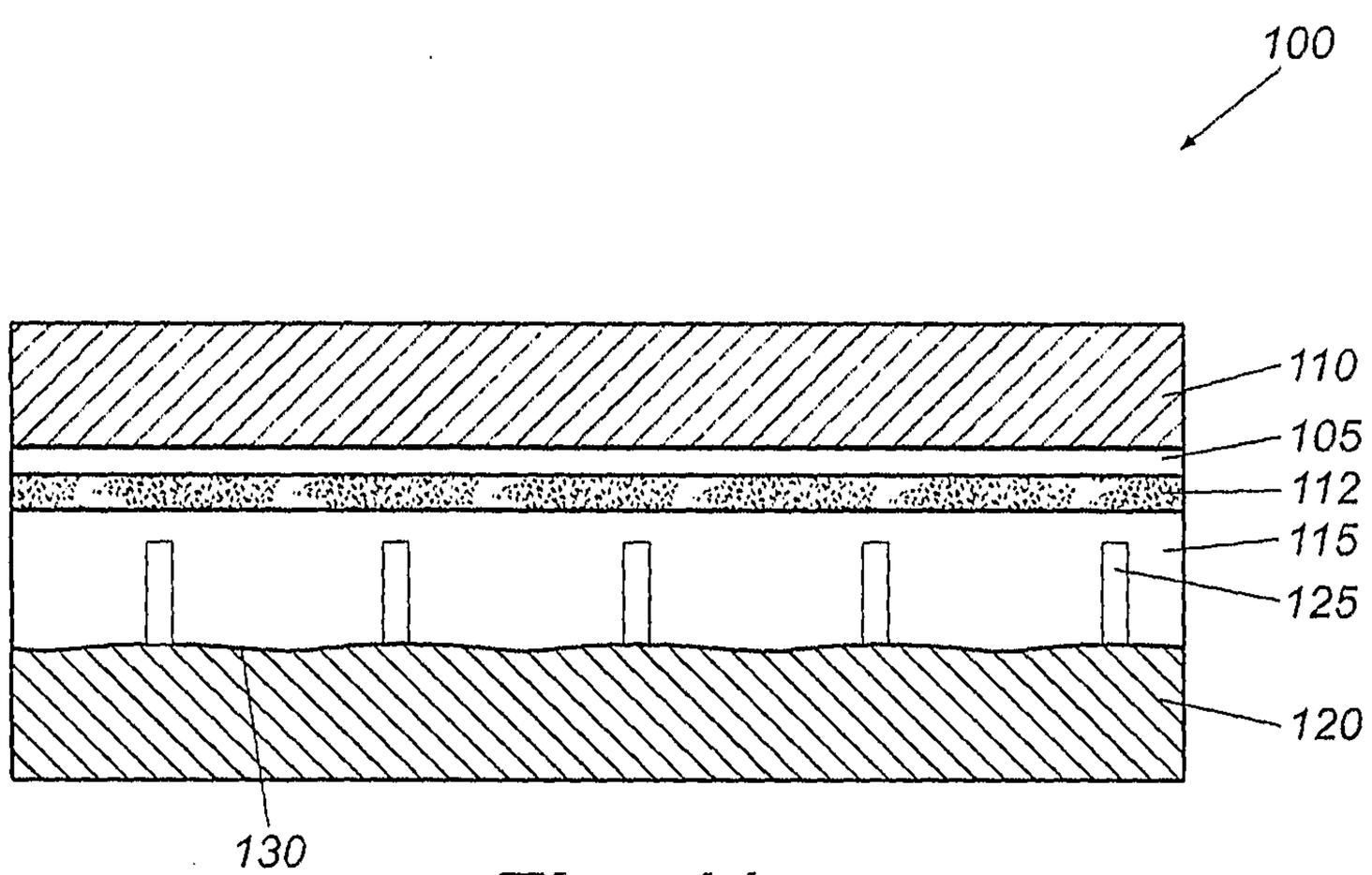
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Fig. 11

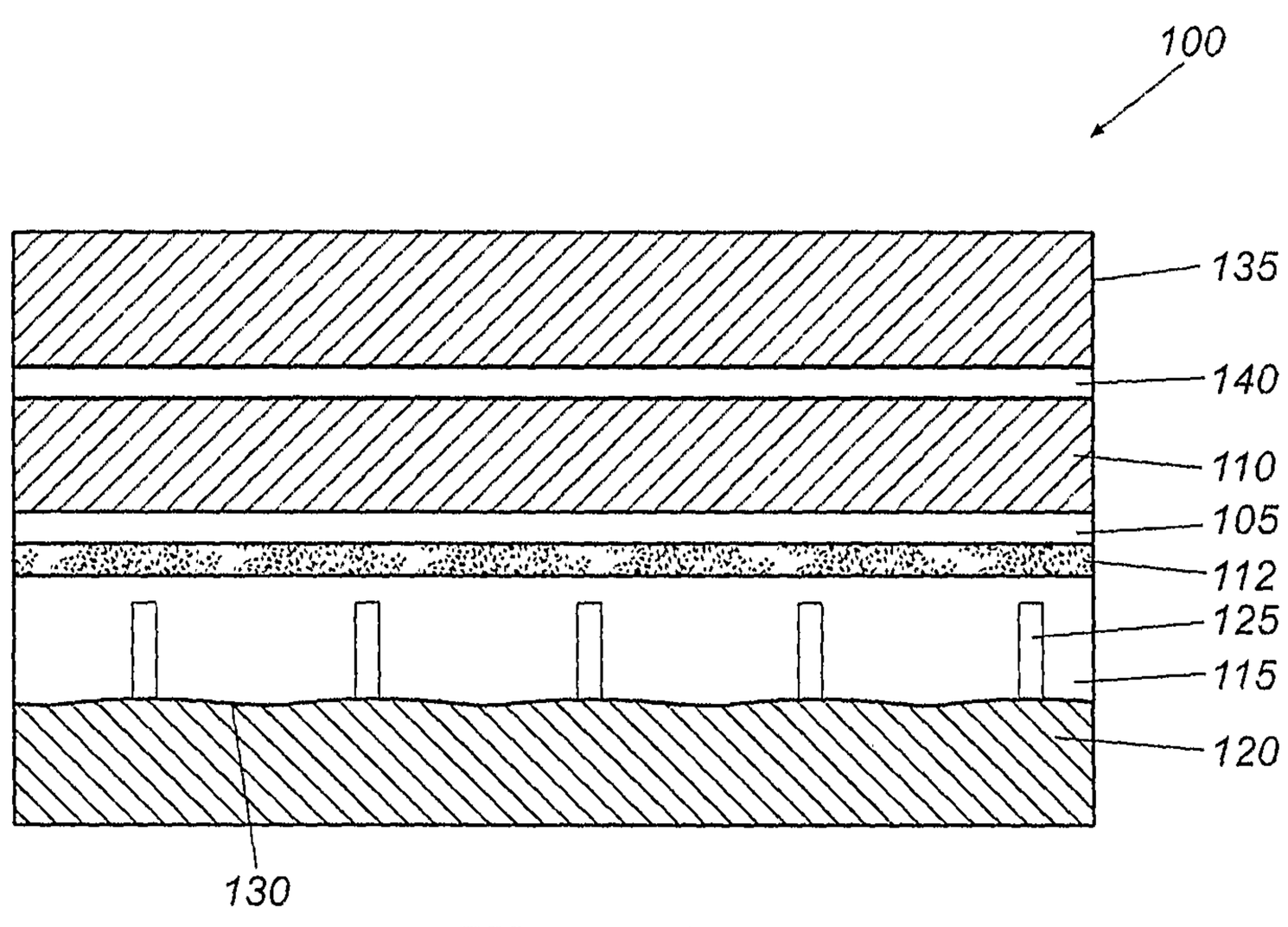
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Fig. 12

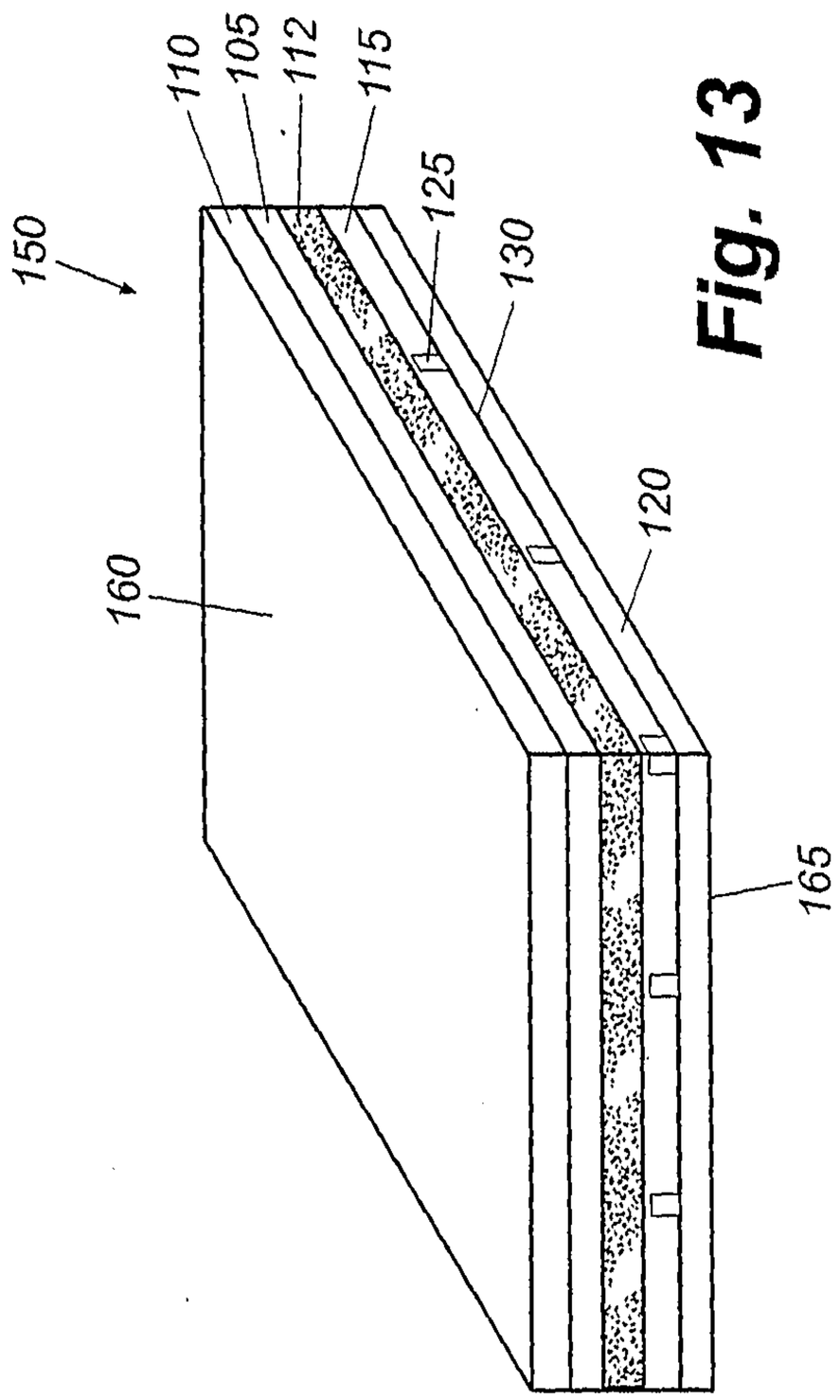
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Fig. 13

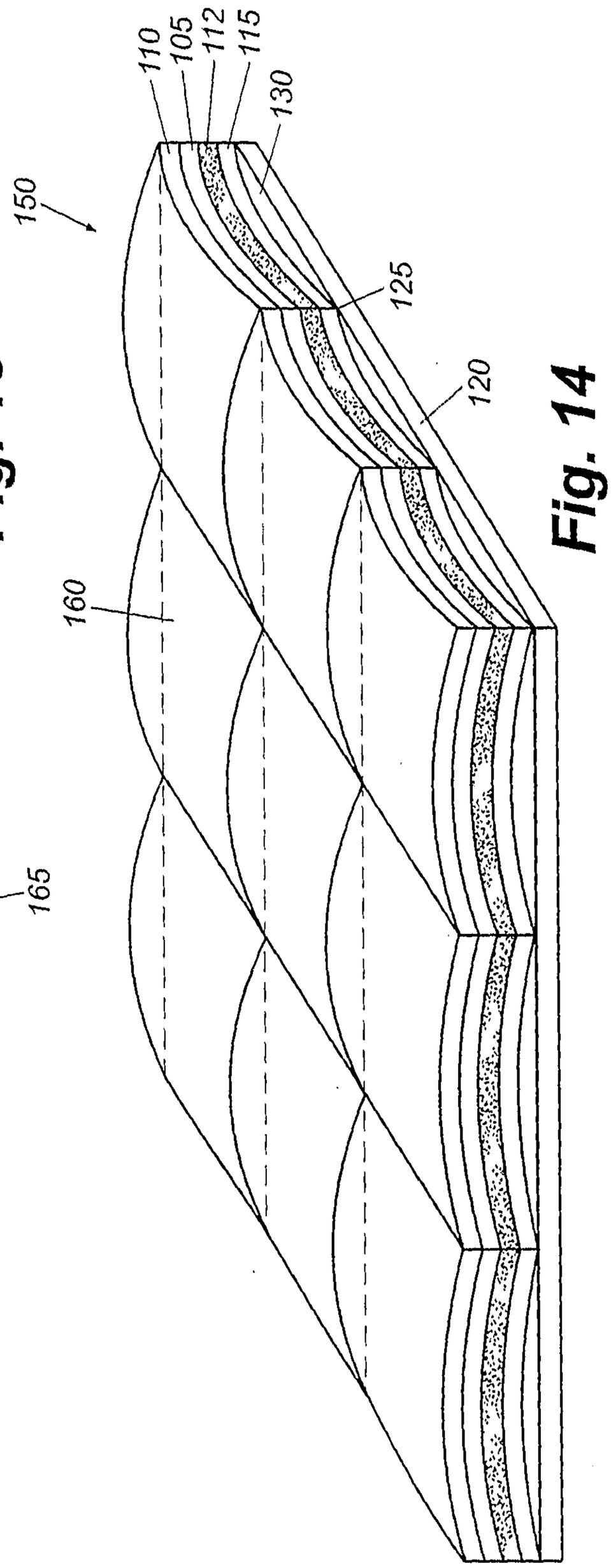
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Fig. 14

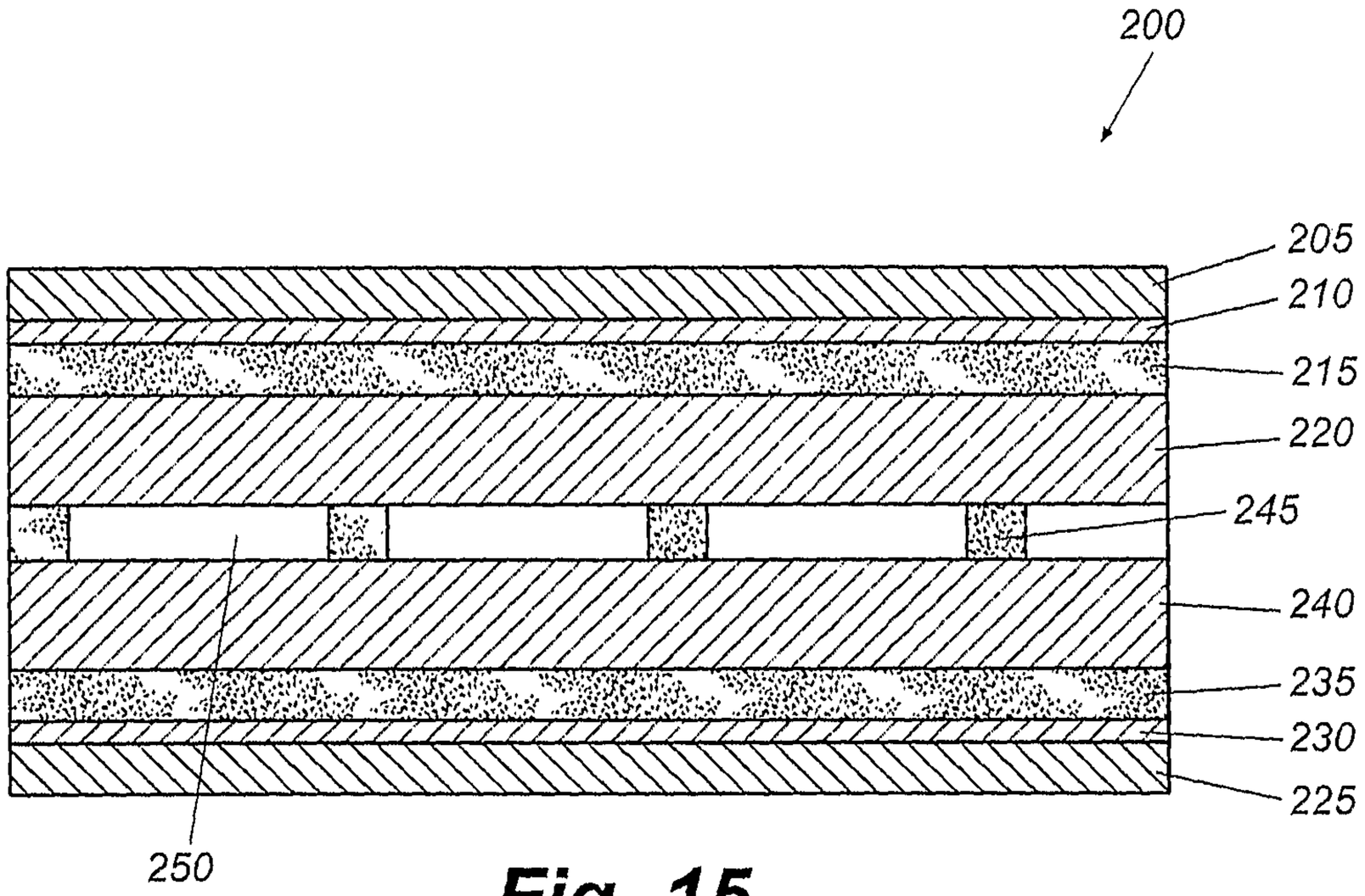
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Fig. 15

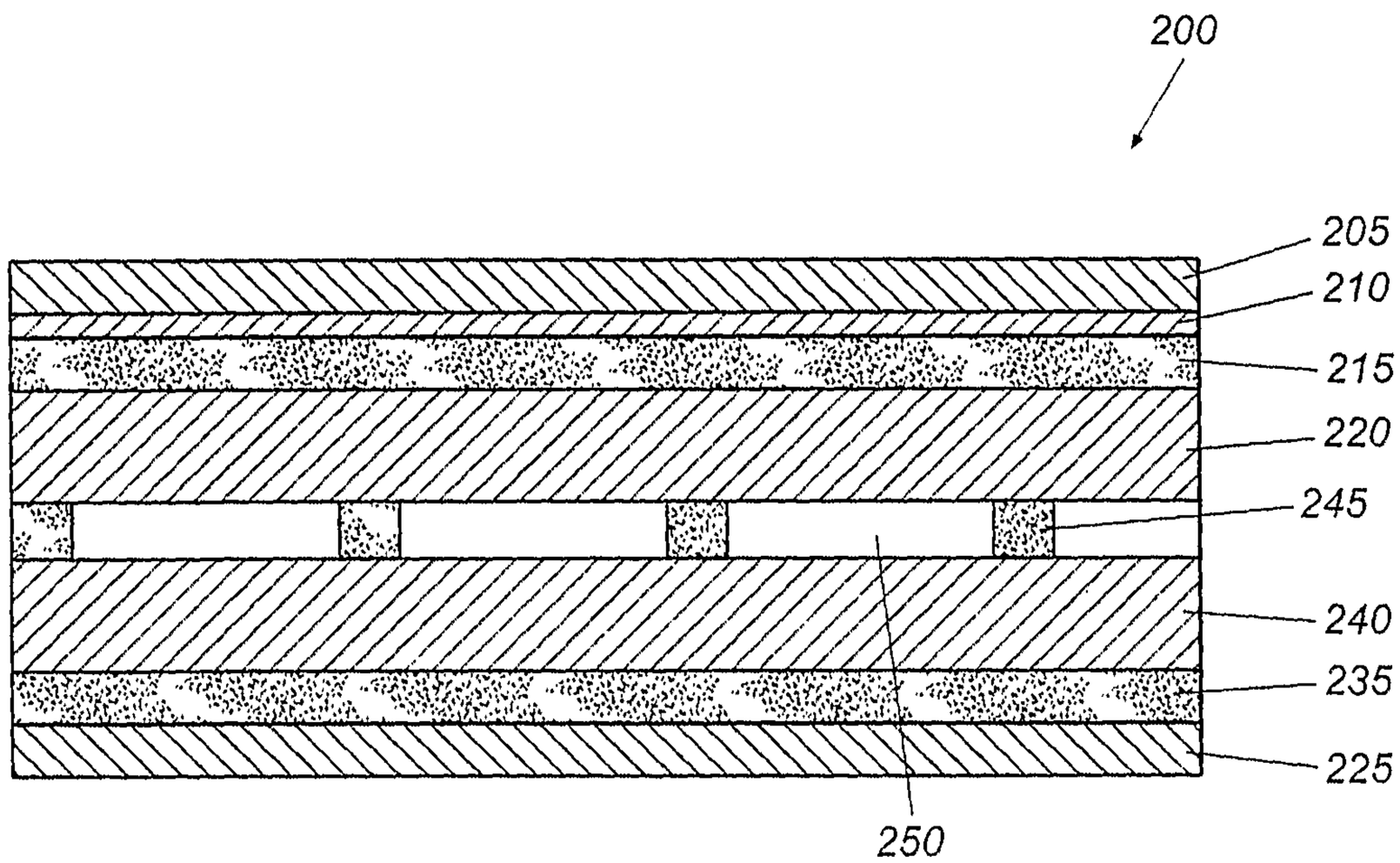
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Fig. 16

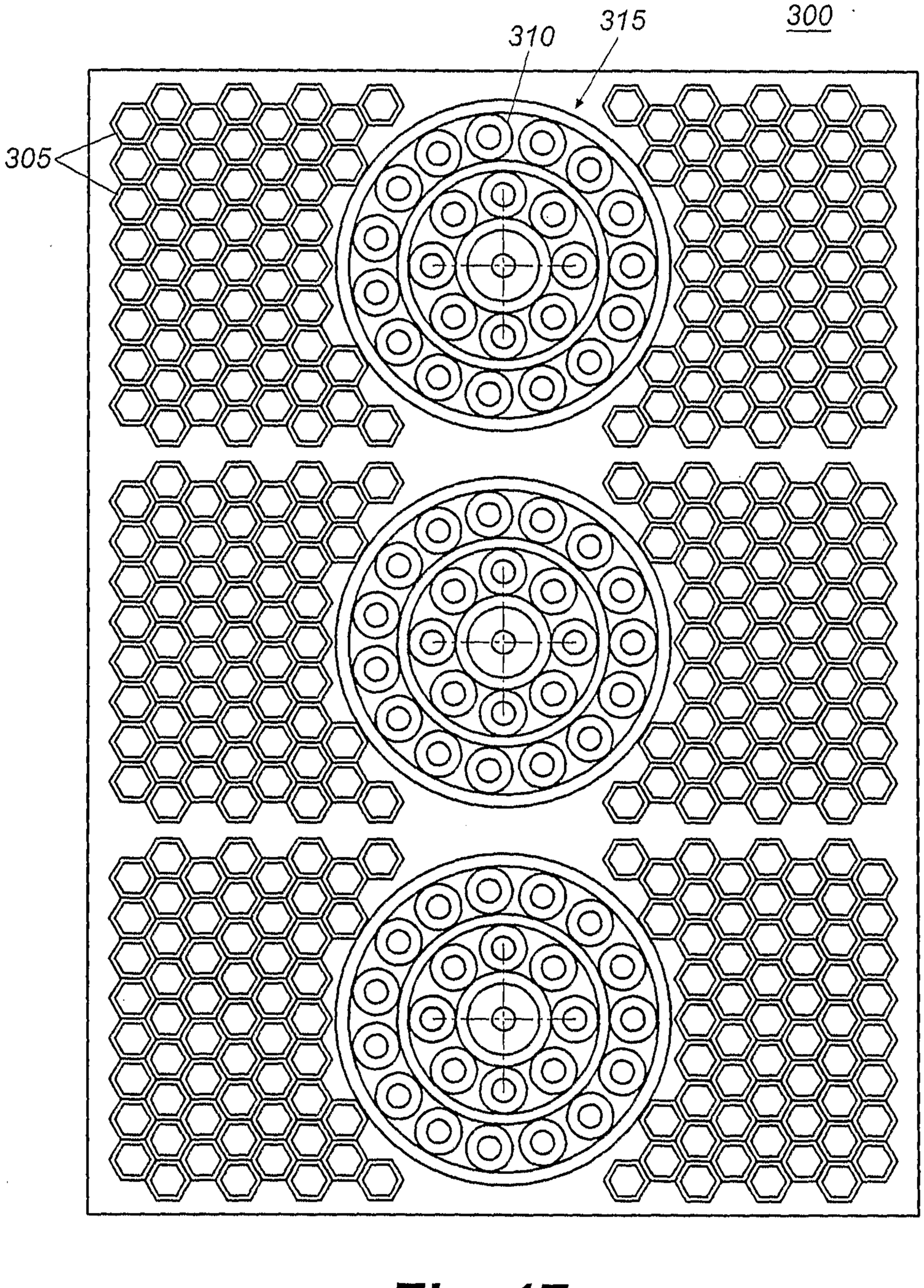
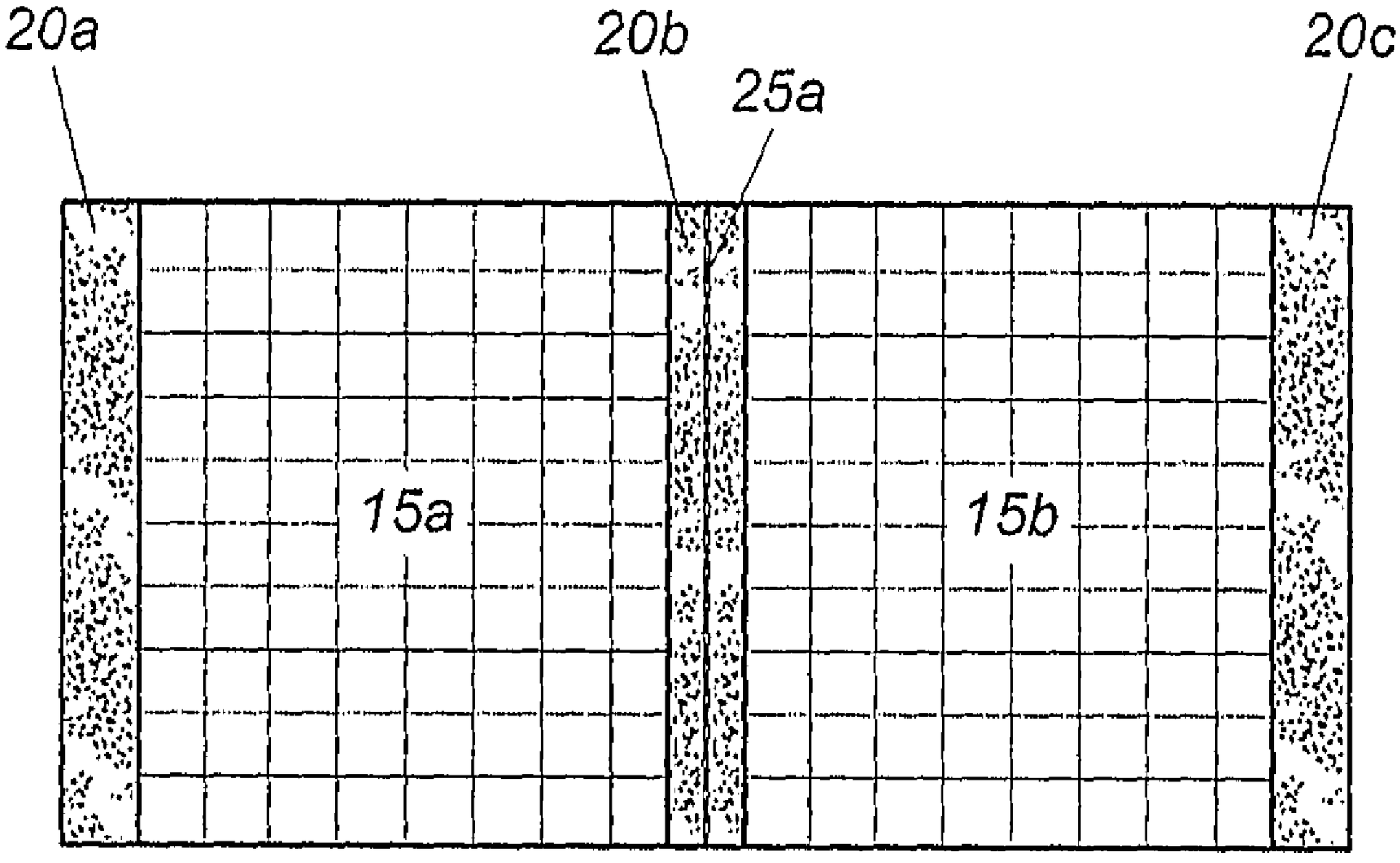


Fig. 17



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