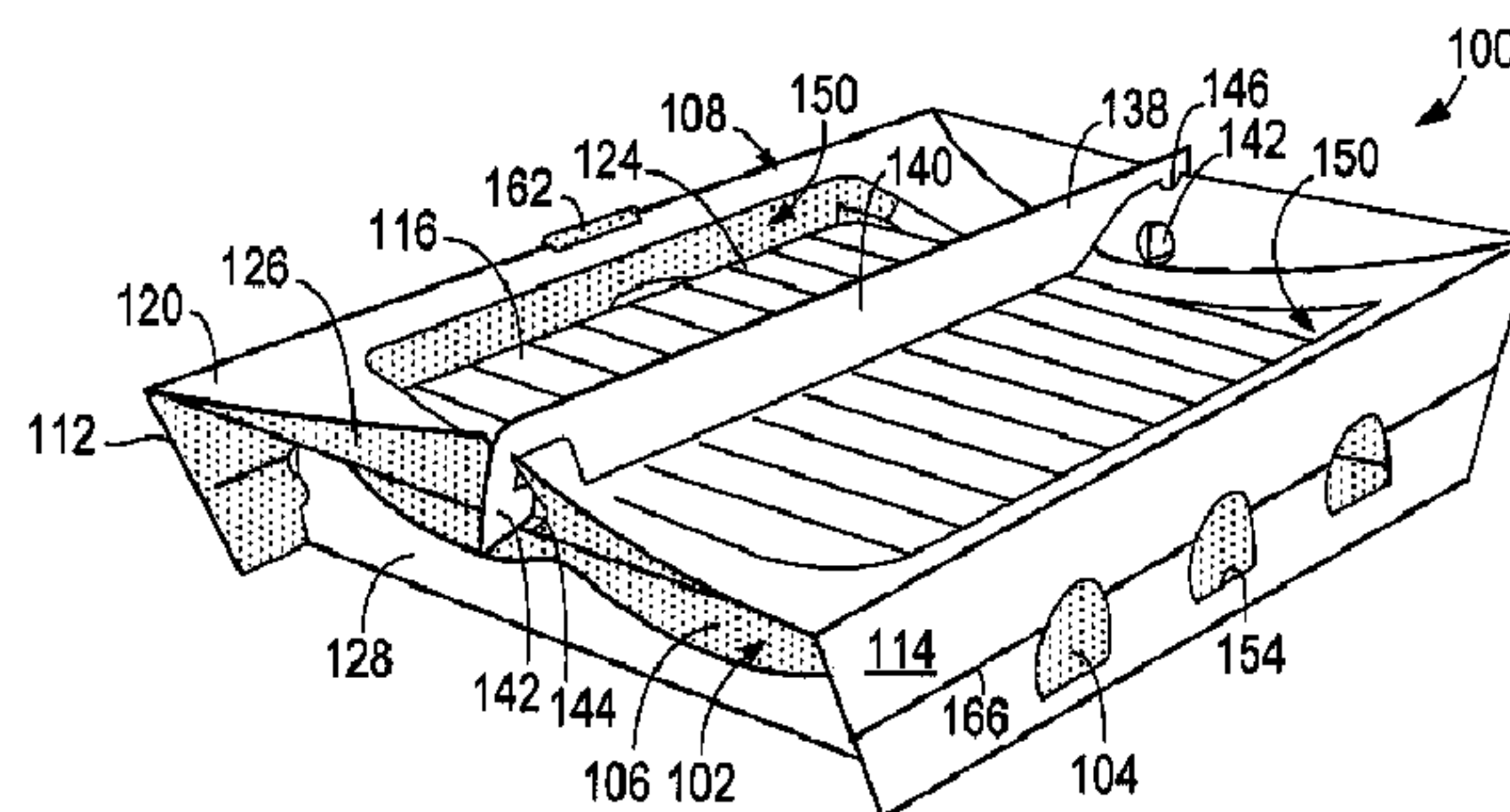




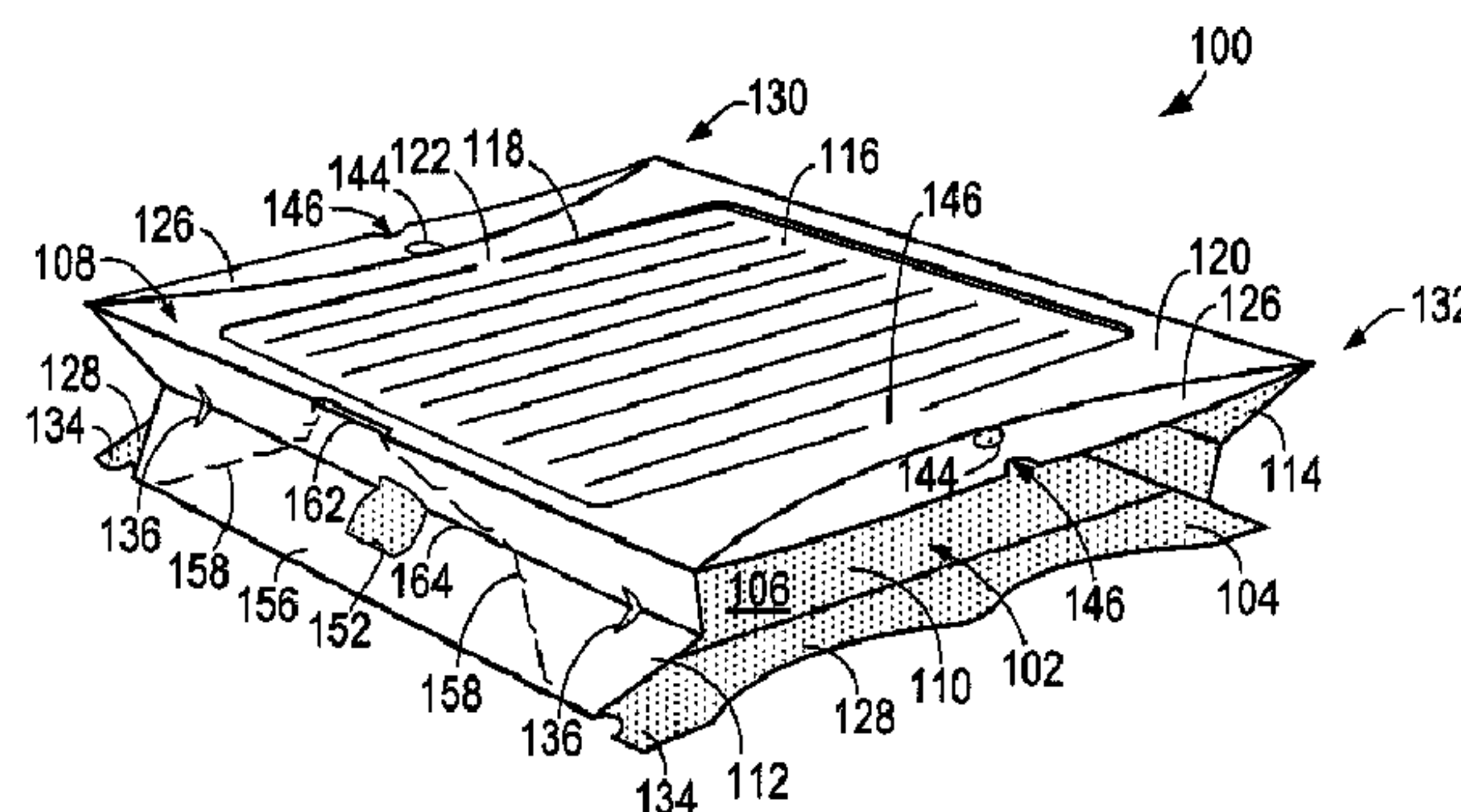
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A



B

(57) Abrégé/Abstract:

A construct comprises a top panel, a bottom panel, and a pair of opposed side panels that define an interior space. The top panel includes a movable portion including a microwave energy interactive element on a side of the movable portion facing the interior

(57) **Abrégé(suite)/Abstract(continued):**

space. The construct also includes a cross member adapted to extend at least partially across the movable portion for urging the movable portion toward the interior space.

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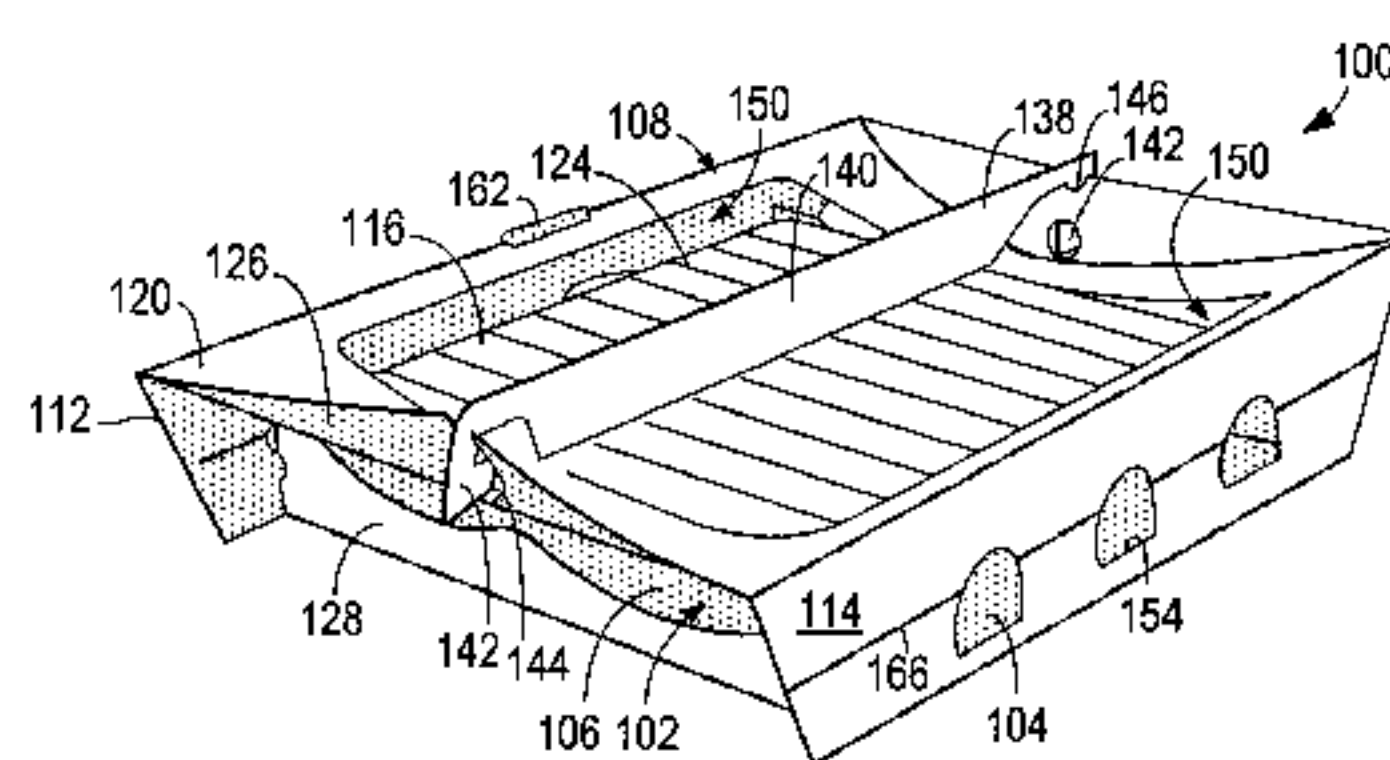


FIG. 1A

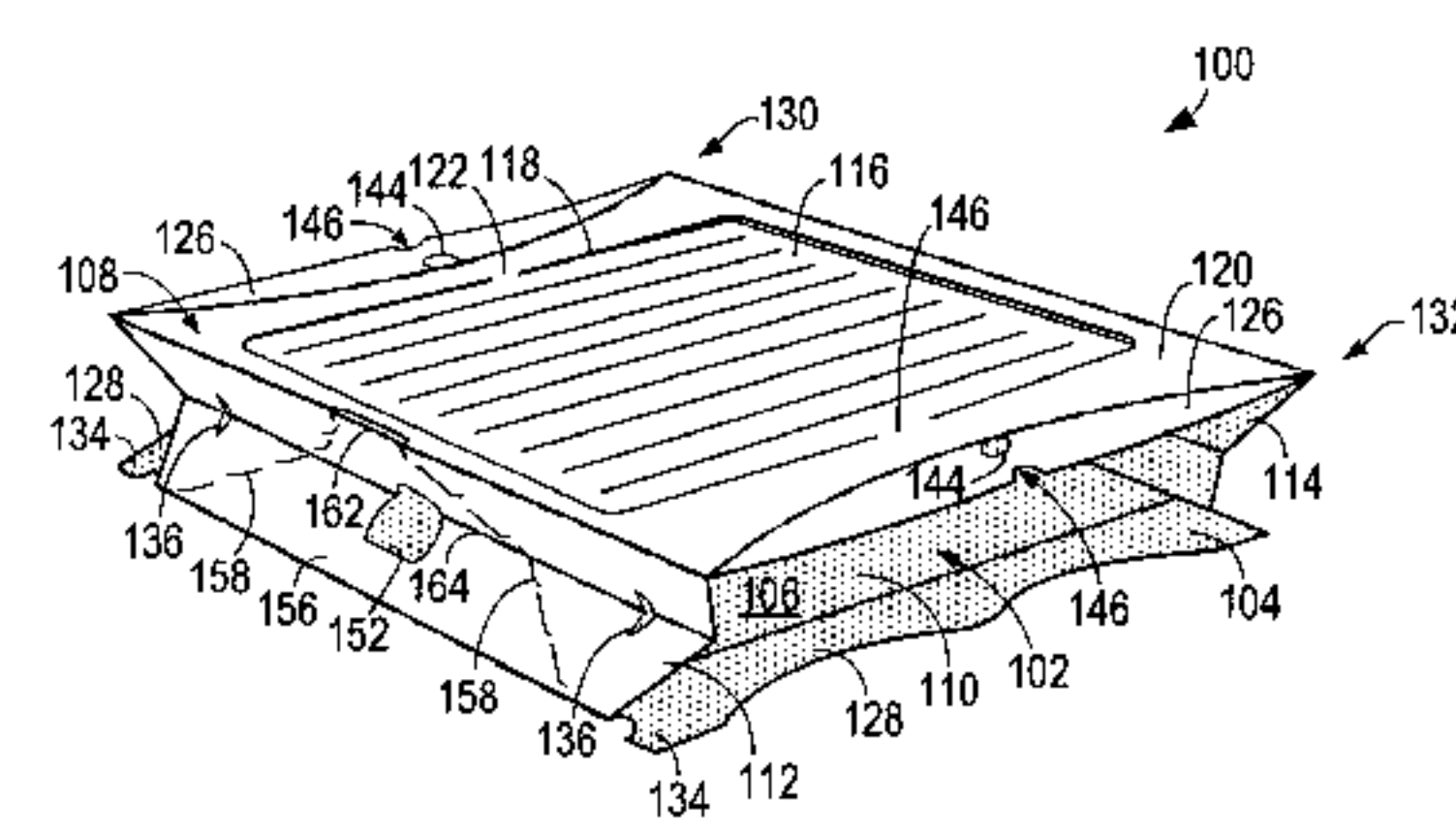


FIG. 1B

(57) Abstract: A construct comprises a top panel, a bottom panel, and a pair of opposed side panels that define an interior space. The top panel includes a movable portion including a microwave energy interactive element on a side of the movable portion facing the interior space. The construct also includes a cross member adapted to extend at least partially across the movable portion for urging the movable portion toward the interior space.

MICROWAVE HEATING APPARATUS

BACKGROUND

5 There is a continuing need for an improved construct or apparatus for heating, browning, and/or crisping a food item in a microwave oven.

SUMMARY

10 This disclosure is directed generally to a construct or apparatus for heating, browning, and/or crisping a food item, for example, in a microwave oven, and a blank for forming such a construct. The construct and/or blank may include one or more microwave energy interactive elements that alter the effect of microwave energy on the food item, for example, a susceptor, a microwave energy shielding element, and/or a microwave energy distributing element.

15 The construct generally includes a plurality of adjoined panels arranged to define a cavity or interior space for receiving a food item. In one example, the construct comprises a top panel and a bottom panel in a substantially opposed, facing relationship, and a pair of side panels in a substantially opposed, facing relationship. The side panels are joined to the top panel and the bottom panel to define a sleeve
20 having an interior space. The top panel includes a movable portion, for example, defined at least partially by one or more cuts (i.e., cut lines) in the top panel. The remaining portion of the top panel is a marginal portion that may at least partially circumscribe (i.e., surround) the movable portion. A susceptor may overlie at least a portion of the movable portion facing the interior space. The construct also may
25 include a cross member that extends at least partially across the movable portion. The cross member is adapted to urge the movable portion away from the plane of the marginal portion towards the interior space to enhance heating, browning, and/or crisping of the food item. If desired, the cross member also may serve as a handle for the construct.

30 According to one aspect of the present invention there is provided a microwave heating construct, comprising a top panel and a bottom panel in a substantially opposed, facing relationship, the top panel including a movable portion defined at least partially by a pair of opposed cuts in the top panel; a pair of side

panels joined to the top panel and the bottom panel for defining an interior space; a
 5 susceptor overlying at least a portion of the movable portion of the top panel on a side
 of the movable portion facing the interior space; and a cross member adapted to
 extend at least partially across the movable portion, and urge the movable portion
 toward the interior space.

According to a further aspect of the present invention there is provided a blank
 for forming a microwave heating construct, comprising a plurality of adjoined panels,
 each of the adjoined panels having a first dimension extending in a first direction and
 a second dimension extending in a second direction substantially perpendicular to the
 10 first direction, the plurality of adjoined panels including a first major panel, a first
 minor panel joined to the first major panel along a fold line extending in the first
 direction, a second major panel joined to the first minor panel along a fold line
 extending in the first direction, the second major panel including a movable portion
 defined at least partially by a pair of opposed cuts, and a cross member panel
 15 separably joined to at least one of the adjoined panels; and a susceptor overlying the
 movable portion of the second major panel.

According to another aspect of the present invention there is provided a
 method of heating, browning, and/or crisping a food item in a microwave oven,
 comprising: providing a construct including a top panel and a bottom panel in a
 20 substantially opposed, facing relationship, the top panel including a movable portion,
 a pair of side panels joined to the top panel and the bottom panel for defining an
 interior space, a susceptor overlying at least a portion of the movable portion of the
 top panel on a side of the movable portion facing the interior space, and a cross
 member; inserting a food item in the interior space, the food item having at least one
 25 surface intended to be browned and/or crisped, the surface of the food item being
 adjacent to the susceptor; and configuring the cross member to extend at least
 partially across the movable portion, thereby engaging the movable portion and
 urging the movable portion toward the interior space.

According to a still further aspect of the present invention there is provided a
 30 microwave heating construct, comprising a top panel and a bottom panel opposite one
 another, the top panel including a pair of opposed cuts that defines a movable portion
 of the top panel, wherein the movable portion includes microwave energy interactive

material, the microwave energy interactive material being operative for converting at least a portion of impinging microwave energy into heat; a pair of side panels joined to the top panel and the bottom panel, the pair of side panels, top panel, and bottom panel defining an interior space; and a cross member for extending at least partially
5 across the movable portion of the top panel and urging the movable portion toward the interior space.

According to another aspect of the present invention there is provided a blank for forming a microwave heating construct, comprising a plurality of adjoined panels, each of the adjoined panels having a first dimension extending in a first direction and
10 a second dimension extending in a second direction substantially perpendicular to the first direction, the plurality of adjoined panels including a first major panel, a first minor panel joined to the first major panel along a first fold line extending in the first direction, and a second major panel joined to the first minor panel along a second fold line extending in the first direction, the second major panel including a movable
15 portion defined at least partially by a pair of opposed cuts in the second major panel, wherein the movable portion includes microwave energy interactive material operative for generating heat when exposed to microwave energy, and a cross member panel.

According to a further aspect of the present invention there is provided a
20 method of heating, browning, and/or crisping a food item in a microwave oven, comprising: exposing a food item in a microwave heating construct to microwave energy, the food item having at least one surface intended to be browned and/or crisped, the microwave heating construct including a top panel and a bottom panel opposite one another, the top panel including a movable portion comprising
25 microwave energy interactive material operative for generating heat in response to microwave energy, a pair of side panels joined to the top panel and the bottom panel, wherein the top panel, bottom panel, and side panels define an interior space in which the food item is received, and a cross member extending at least partially across the movable portion, wherein the cross member urges the movable portion of the top
30 panel toward the interior space so that the microwave energy interactive material of the movable portion is proximate to the surface of the food item so that the microwave energy interactive material of the movable portion generates heat in

response to the microwave energy and browns and/or crisps the surface of the food item.

Other features, aspects, and embodiments of the invention will be apparent from the following description, accompanying figures, and appended claims.

5

BRIEF DESCRIPTION OF THE DRAWINGS

The description refers to the accompanying drawings in which like reference characters refer to like parts throughout the several views, and in which:

FIG. 1A is a schematic perspective view of an exemplary construct or
10 apparatus for heating, browning, and/or crisping a food item in a microwave oven;

FIG. 1B is a schematic perspective view of the construct of FIG. 1A, in a partially erected configuration;

FIG. 1C is a schematic top plan view of the construct of FIG. 1B; FIG. 1D is a schematic bottom plan view of the construct of FIG. 1B; FIGS. 1E and 1F are
15 schematic plan views of the construct in an opened configuration; and

FIG. 1G is a schematic top plan view of a blank that may be used to form the construct of FIGS. 1A-1D.

DESCRIPTION

20 Various aspects of the disclosure may be illustrated by referring to the figures. For purposes of simplicity, like numerals may be used to describe like features. It will be understood that where a plurality of similar features are depicted, not all of such features necessarily are labeled on each figure. Although several different exemplary aspects, implementations, and embodiments are provided, numerous interrelationships
25 between, combinations thereof, and modifications of the various inventions, aspects, implementations, and embodiments are contemplated hereby.

FIGS. 1A-1D schematically depict a construct or apparatus 100 for heating, browning, and/or crisping a food item in a microwave oven. The construct 100 generally includes a plurality of adjoining panels (discussed below)

and an interior space or cavity **102** for receiving a food item (not shown), for example, a sandwich. A microwave energy interactive element **104**, for example, a susceptor (schematically shown with stippling throughout the various figures), may overlie any of the various panels and/or at least partially define an interior
5 surface **106** of the construct **100** facing the cavity **102**. The construct **100** may be used to heat, brown, and/or crisp any suitable food item, for example, a sandwich, breaded meat item, or pastry. **FIG. 1B** schematically depicts the construct or apparatus **100** in a partially erected configuration. **FIGS. 1C** and **1D** schematically respectively illustrate top and bottom plan views of the partially
10 erected construct **100** of **FIG. 1B** in a substantially flattened state.

Now viewing **FIGS. 1A-1D** in further detail, the construct **100** includes a first pair of opposed panels (e.g., major panels) including a top panel **108** and a bottom panel **110**, and a second pair of opposed panels (e.g., minor panels) including a first side panel **112** and a second side panel **114** that collectively define
15 a sleeve having the interior space or cavity **102**.

The top panel **108** includes a movable portion or “grilling” flap **116** defined by a pair of opposed cut lines (i.e., cuts), slits, or other lines of disruption **118**. Each cut **118** has a generally U shape, and in this example, the U shape is somewhat squared, such that each cut may be said to have a somewhat squared U-
20 shape. The flap **116** is pivotably joined to the remainder **120** of the top panel **108** (i.e., the marginal portion **120** of the top panel **108**) at attachment areas **122** that serve as flex or pivot points or areas for the flap **116**. In this example, the movable portion **116** is substantially centered in the top panel **108** such that the marginal portion of the top panel **108** at least partially circumscribes the movable
25 portion **116**. However, other shapes and configurations of the movable portion and marginal portion are contemplated. If desired, the flap **116** may include a plurality of score lines **124** that may define grill lines or marks on an adjacent food item, as will be discussed further below.

Still viewing **FIGS. 1A-1D**, a pair of top end panels **126** are foldably
30 joined to opposite ends of the top panel **108**. Likewise, a pair of bottom end panels **128** are foldably joined to opposite ends of the bottom panel **110**. In the

partially erected configuration shown in **FIG. 1B**, the top end panels **126** and respective bottom end panels **128** are in a substantially opposed, facing relationship with one another at opposed ends **130, 132** of the construct **100**. With the ends **130, 132** in this open configuration, the food item to be heated, browned, and/or crisped may be inserted into the interior space **102**. Alternatively, the food item may be inserted into the construct **100** at any other suitable time, for example, as the construct **100** is being erected from a blank **168** (discussed in connection with **FIG. 1F**).

When the food item is inside the construct **100**, the bottom end panels **128** may be folded towards the interior space **102** to at least partially “close” the ends **130, 132** of the construct **100**, as shown in **FIG. 1A**. The bottom end panels **128** each include a locking projection **134** adapted to be received within a respectively adjacent aperture **136** in the first side panel **112** (best seen in **FIG. 1A**) to maintain the bottom end panels **128** in a substantially upright “closed” configuration. While one example is shown in the figures, it will be understood that any type of locking feature may be used to secure the bottom end panels **128** in an upright configuration, and such features may be included in the end panels **128**, the side panels **112, 114**, or any suitable combination thereof.

The apparatus **100** may be provided with a cross member **138** (**FIGS. 1A, 1D**), which, in some embodiments, also may serve as a handle for the construct **100**. The cross member **138** generally has a central or major portion **140** adapted to extend at least partially across the movable portion or grill flap **116**, and pair of locking projections **142** at opposed ends of the cross member **138** adapted to be received within respective apertures **144** in the top end panels **126**. If desired, each of the top end panels **126** may include a respective notch **146** to assist with maintaining the cross member **138** in a substantially straight and/or centered position between the sides (i.e., side panels **112, 114**) of the construct **100**, as shown in **FIG. 1A**.

The cross member **138** may be provided as a removably attached portion of the construct **100**, for example, as shown in **FIG. 1D**, with the cross member **138** being joined to the remainder of the construct **100** along a line of separation or

weakening (e.g., a tear line 148). In this example, the cross member 138 is in a facing, substantially contacting relationship with the bottom panel 110. However, the cross member 138 may be removably attached at any suitable location. As another example, the cross member 138 may be removably joined to the remainder
5 of the construct 100 using an adhesive, for example, an adhesive dot or strip (not shown). Alternatively, the cross member 138 may be provided with, but separately from, the remainder of the construct 100.

To install the cross member 138 according to one acceptable method, the top end panels 126 may be urged upwardly and the locking projections 142 of the
10 cross member 138 may be inserted into the respective apertures 144. In doing so, the major (i.e., central) portion 140 of the cross member 138 engages and urges the grill flap 116 away from the plane of the peripheral portion of the top panel 108 towards, and in some instances, into proximate or intimate contact with, the food item (not shown) in the cavity 102. As a further result, venting gaps 150 are
15 formed between the grill flap 116 and the peripheral margin of the top panel 108 along slits 118 (FIG. 1A). The venting gaps 150 may allow the passage of moisture away from the food item during the heating cycle, thereby enhancing browning and/or crisping of the food item. Further, one or both of the side panels 112, 114 also may be provided with respective venting apertures 152, 154 (FIGS.
20 1A, 1B) to transport moisture away from the food item during heating.

Upon sufficient exposure to microwave energy, the susceptor 104 tends to convert at least a portion of the impinging microwave energy into thermal energy, which then can be transferred to the surface of the food item to enhance surface browning and/or crisping. The score lines 124 in the movable portion or “grilling”
25 flap 116 may provide grill-type browning marks on the upper surface of the food item.

After heating, the food item may be removed from the microwave oven by grasping the cross member 138, which may be designed to be substantially transparent microwave energy so that it remains substantially cool to the touch
30 after exposure to microwave energy. The food item then may be retrieved from the interior space 102 by removing the cross member 138 and/or opening one or

both ends **130, 132** of the construct **100**, for example, by removing the locking projections **142** from the respective apertures **144**, and folding the bottom end panels **128** away from the cavity **102**, or by any other suitable method.

If desired, the construct **100** may include one or more features that facilitate removal of the food item from the cavity **102**. For example, as best seen in **FIG. 1B**, the construct **100** may include an access panel **156** that may be used to transform the construct **100** from an erected condition to a substantially open condition. In this example, the access panel **156** is defined by a pair of lines of disruption **158** in the first side panel **112** that extend divergently substantially from the top panel **108** towards the bottom panel **110** (or extend convergently from the bottom panel **110** towards the top panel **108**). However, the access panel **156** may have any other shape or may be located in any other suitable location, as desired. If desired, the construct **100** may include a grasping feature, for example, a tab **162**, extending from the access panel **156** to assist with initiating the separation of the access panel **156** from the remainder of the construct **100**. The tab **162** may have any suitable shape.

In some embodiments, the construct **100** may include additional lines of weakening that facilitate opening of the construct **100**. By way of example, in the illustrated embodiment, the construct **100** includes a line of disruption **158** joining the first side panel **112** to the bottom panel **110**. At least a portion of the line of disruption **160**, for example, at least the respective portions extending from the line of disruption **158** towards the ends **130, 132** of the construct **100** may include one or more cut lines. In doing so, when the access panel **156** is separated from the remainder of the first side panel **112**, tearing may continue along line of disruption **160** until the ends **130, 132** are reached. As a result, the construct **100** may be completely opened into a somewhat flattened structure, as shown in **FIG. 1E**.

While one example of an unerected construct is shown in **FIG. 1E**, it will be appreciated that the precise manner in which the construct **100** is opened is not critical to the invention. For example, in some embodiments, the first side panel **112** and, optionally, the second side panel **114**, may include respective lines of

weakening (e.g., tear lines) **164**, **166** (**FIGS. 1A, 1B**) that allow the construct **100** to be collapsed into a flattened configuration and/or to accommodate the shape of the food item. In such embodiments, such lines of weakening, for example, line of weakening **164** in the first side panel **112**, also may facilitate opening of the
5 construct **100** via the access panel **156**. By way of example, **FIG. 1F** schematically illustrates the construct **100** in a fully open configuration after tearing along tear lines **158** and line of disruption **164**.

FIG. 1G is a plan view of a blank **168** that may be used to form the construct **100** of **FIGS. 1A-1E**. The blank **168** generally includes a plurality of
10 adjoining panels, each of which has a first dimension, for example, a length, extending in a first direction, for example, a longitudinal direction, **D1**, and a second dimension, for example, a width, extending in a second direction, for example, a transverse direction, **D2**. It will be understood that such designations are made only for convenience and do not necessarily refer to or limit the manner
15 in which the blank **168** is manufactured or erected into a construct or apparatus.

Generally viewing **FIG. 1G** from left to right, the blank **168** includes a first major panel **110** joined to a first minor panel **112** along a longitudinal fold line **160**. The first minor panel **112** is joined to a second major panel **108** along a longitudinal fold line **170**, which in turn, is joined to a second minor panel **114**
20 along a longitudinal fold line **172**. The second minor **114** panel is joined to an attachment panel **174** along a longitudinal fold line **176**, which in turn is joined to a detachable cross member panel or cross member **138** along a longitudinal line of disruption **148**, which in this example, comprises a plurality of spaced apart cut lines. The cross member panel **138** includes a central portion **140** adjacent to fold
25 line **148** and a pair of opposed locking features **142** extending from opposite longitudinal ends of the cross member panel **138**. The attachment panel **174** has a length **L** approximately equal to the length **L** of the first major panel **110**. In this example, the minor panels **112**, **114** and attachment panel **174** are substantially trapezoidal in shape. However, other shapes are contemplated.

30 The second major panel **108** includes a movable portion **116** defined by a pair of opposed cut lines or slits **118**. The movable portion **116** is joined to the

marginal portion (i.e., the remainder) of the second major panel **108** at attachment areas **122**. The movable portion **116** includes a plurality of score lines **124** extending transversely between, but typically not abutting, slits **118**.

Still viewing **FIG. 1G**, the blank **168** includes a pair of end panels **126** joined to opposite (i.e., opposed) ends of the second major panel **112** along respective substantially arcuate, opposed fold lines **178**. Each end panel **126** includes a substantially circular aperture **144** proximate to the midpoint or middle of the respective arcuate fold line **178**, substantially aligned with attachment areas **122** of the movable portion **116** of the second major panel **108**. Each aperture **144** is adapted to received the respectively adjacent locking feature **142** of the cross member **138** when the blank **168** is formed into a construct **100** (**FIG. 1A**). Further, each end panel **126** may include a substantially arcuate notch **146** along the outermost edge of the end panel **126** substantially aligned in the longitudinally direction with the respective aperture **144** (and with attachment areas **122**). When the cross member **138** is installed, the notches **146** assist with maintaining the handle **138** in a substantially upright configuration with respect to the grilling flap **116**, as shown in **FIG. 1A**.

A pair of end panels **128** is joined to opposite (i.e., opposed) ends of the first major panel **110** along respective transverse fold lines **180**. Each end panel **128** extends generally in the transverse direction and includes a pair of inwardly arcuate cutouts or curved edge sections **182**. Each end panel **128** also includes a locking projection **134** that extends toward the first minor panel **112**. Each locking projection **134** is adapted to be received within a respective somewhat D-shaped locking aperture **136** in the first minor panel **112**. The flat side of each locking aperture **136** is substantially aligned with the respectively adjacent transverse fold lines **180**.

The first minor panel **112** and the second minor panel **114** each include respective venting apertures **152**, **154**. In this example, the apertures **152**, **154** are substantially D-shaped with the rounded side of the apertures **152**, **154** facing the second major panel **108** and the flattened side of the apertures **152**, **154** substantially parallel to and adjacent to the respective longitudinal fold lines **160**,

176. The first minor panel **112** and the second minor panel **114** also include a respective longitudinal line of disruption **164**, **166** extending substantially along the length of the respective minor panel **112**, **114**, interrupted by the respective venting apertures **152**, **154**.

5 The first minor panel **112** also includes a pair of lines of disruption (e.g. tear lines or cut lines) **158** that extend divergently from a somewhat square U-shaped slit **184** in the second major panel **108** and terminate substantially proximate to fold line **160**. The slit defines a tab **162** that is struck from the second major panel **108** when the blank **168** is formed into a construct **100**, as
10 shown in **FIGS. 1B, 1C, 1D**. In this example, the lines of disruption **158** are “zipper” type tear lines (i.e., a plurality of cut lines, each of which includes a substantially linear portion and an oblique portion extending from the respective linear portion). However, other types of tear lines or cut lines may be used. Further, it will be understood that although the illustrated example includes
15 particular types of lines of weakening or disruption in particular portions of the blank and/or construct, the various other panels of the blank and/or construct may include such lines of weakening and/or numerous other features that facilitate manufacture, assembly, use, and/or opening of the construct.

 A microwave energy interactive element, for example, a susceptor **104**
20 (schematically illustrated with stippling) overlies at least a portion of one side of the blank **168**, for example, a first side of the blank **168** intended to become the interior side or surface **106** of the construct **100** (**FIGS. 1A-1D**) formed from the blank **168**. In this example, the susceptor **104** overlies the entire blank **168** except the cross member or handle panel **138**, so that when the cross member **138** is used
25 as a handle, the handle **138** remains substantially cool, even after exposure to microwave energy. However, it is contemplated that other areas that would be desirable to remain cool and/or areas not needed for browning and/or crisping may be provided without a susceptor. For example, in some embodiments, end panels **126** and/or tab **162** may be provided without a susceptor.

30 To form the construct **100** from the blank **168** according to one exemplary method, the blank **168** may be folded along longitudinal fold lines **160**, **170**, **172**,

176, and major panel 110 may be brought into a superposed configuration with major panel 108. The attachment panel 174 and cross member panel 138 then may be brought into an overlapping, substantially contacting relationship with the second side (i.e. exterior side) of major panel 110 (FIG. 1D). The attachment
5 panel 174 then may be joined to the major panel 110 using any suitable adhesive, thermal, or mechanical technique or mechanism, leaving the cross member 138 free to be separated from the attachment panel 174 along line of disruption 148 (FIG. 1D). If desired, the construct 100 may be folded along fold lines 164, 166 to allow the construct 100 to be somewhat compressed or flattened, as shown in
10 FIG. 1B.

Numerous materials may be suitable for use in forming the various blanks and constructs (e.g. trays) of the invention, provided that the materials are resistant to softening, scorching, combusting, or degrading at typical microwave oven heating temperatures, for example, from about 250°F to about 425°F. Such
15 materials may include microwave energy interactive materials and microwave energy transparent or inactive materials.

The microwave energy interactive material(s) may be used to form one or more microwave energy interactive elements or features that alter the effect of microwave energy on the adjacent food item. Each microwave energy interactive
20 element comprises one or more microwave energy interactive materials or segments arranged in a particular configuration to absorb microwave energy, transmit microwave energy, reflect microwave energy, or direct microwave energy, as needed or desired for a particular microwave heating construct and food item. The microwave energy interactive element may be configured to promote
25 browning and/or crisping of a particular area of the food item, to shield a particular area of the food item from microwave energy to prevent scorching or overheating, or to transmit microwave energy towards or away from a particular area of the food item.

In the illustrated example, the blank 168 includes a susceptor 104
30 substantially overlying and joined to at least a portion of the blank 168 that forms

or defines at least a portion of a first surface 106, which may serve as a food-contacting or food bearing surface in proximate or intimate contact with the food item. If desired, a second surface opposite the first surface (i.e., the exterior surface) also may include one or more microwave energy interactive elements.

5 The susceptor generally comprises a thin layer of microwave energy interactive material (generally less than about 100 angstroms in thickness, for example, from about 60 to about 100 angstroms in thickness, and having an optical density of from about 0.15 to about 0.35, for example, about 0.21 to about 0.28) that tends to absorb at least a portion of impinging microwave energy and
10 convert it to thermal energy (i.e., heat) at the interface with the food item. Susceptor elements often are used to promote browning and/or crisping of the surface of a food item. However, other microwave energy interactive elements, such as those described herein, are contemplated for use with the invention.

For example, the microwave energy interactive element may comprise a
15 foil having a thickness sufficient to reflect substantially all of impinging microwave energy. Such reflective elements may be formed from various materials and may have various configurations, depending on the particular application for which the shielding element is used. Typically, such elements are formed from a conductive, reflective metal or metal alloy, for example, aluminum,
20 copper, or stainless steel. Such elements may have a thickness of from about 0.000285 inches to about 0.05 inches, for example, about 0.0003 inches to about 0.03 inches, for example, about 0.00035 inches to about 0.020 inches, for example, about 0.016 inches.

Larger microwave energy reflecting elements may be used as microwave
25 energy shielding elements, for example, where all or a portion of the food item is prone to scorching or drying out during heating. Smaller microwave energy reflecting elements may be used to diffuse or lessen the intensity of microwave energy. A plurality of smaller microwave energy reflecting elements also may be arranged to form a microwave energy directing element to direct microwave
30 energy to specific areas of the food item. If desired, the loops may be of a length that causes microwave energy to resonate, thereby enhancing the distribution

effect. Microwave energy distributing elements are described in U.S. Patent Nos. 6,204,492, 6,433,322, 6,552,315, and 6,677,563.

If desired, any of the numerous microwave energy interactive elements described herein or contemplated hereby may be substantially continuous, that is, without substantial breaks or interruptions, or may be discontinuous, for example, by including one or more microwave energy transparent areas or apertures that transmit microwave energy therethrough. Such areas may be sized and positioned to heat particular areas of the food item selectively. The areas may extend through the entire structure, or only through one or more layers. The number, shape, size, and positioning of such microwave energy transparent areas may vary for a particular application depending on type of construct being formed, the food item to be heated therein or thereon, the desired degree of shielding, browning, and/or crisping, whether direct exposure to microwave energy is needed or desired to attain uniform heating of the food item, the need for regulating the change in temperature of the food item through direct heating, and whether and to what extent there is a need for venting.

It will be understood that the aperture may be a physical aperture or void in one or more layers or materials used to form the construct, or may be a non-physical "aperture". A non-physical aperture is a microwave energy transparent area that allows microwave energy to pass through the structure without an actual void or hole cut through the structure. Such areas may be formed by simply not applying microwave energy interactive material to the particular area, or by removing microwave energy interactive material in the particular area, or by mechanically deactivating the particular area (rendering the area electrically discontinuous). Alternatively, the areas may be formed by chemically deactivating the microwave energy interactive material in the particular area, as described in U.S. Patent No. 4,865,921, thereby transforming the microwave energy interactive material in the area into a substance that is transparent to microwave energy (i.e., microwave energy inactive). While both physical and non-physical apertures allow the food item to be heated directly by the microwave

energy, a physical aperture also provides a venting function to allow steam or other vapors to escape from the interior of the construct. The arrangement of microwave energy interactive and microwave energy transparent areas may be selected to provide various levels of heating, as needed or desired for a particular application.

The arrangement of microwave energy interactive and microwave energy transparent areas may be selected to provide various levels of heating, as needed or desired for a particular application. For example, where greater heating is desired, the total inactive area may be increased. In doing so, more microwave energy is transmitted to the food item. Alternatively, by decreasing the total inactive area, more microwave energy is absorbed by the microwave energy interactive areas, converted into thermal energy, and transmitted to the surface of the food item to enhance browning and/or crisping.

In some instances, it may be beneficial to create one or more discontinuities or inactive regions to prevent overheating or charring of the construct. By way of example, and not limitation, in the construct **100** illustrated in **FIGS. 1A-1D**, the attachment panel **174** is an overlapping relationship with major panel **110**. When exposed to microwave energy, the concentration of heat generated by the overlapped panels may be sufficient to cause the underlying support, in this case, paperboard, to become scorched. As such, the overlapping portions of one or both of panels **110**, **174** may be designed to be microwave energy transparent, for example, by forming these areas of the blank **168** without a microwave energy interactive material, by removing any microwave energy interactive material that has been applied, or by deactivating the microwave energy interactive material in these areas.

Further still, one or more panels, portions of panels, or portions of the construct may be designed to be microwave energy inactive to ensure that the microwave energy is focused efficiently on the areas to be browned and/or crisped, rather than being lost to portions of the food item not intended to be browned and/or crisped or to the heating environment. This may be achieved using any suitable technique, such as those described above. By way of example,

and not limitation, in the illustrated example, the top end panels 126 are in a substantially vertical configuration extending upwardly away from the interior space 102 in which the food item is heated. In this configuration, the top end panels 126 are not likely to be in proximate or intimate contact with any portion of the food item intended to be browned and/or crisped. Likewise, tab 162 may be made to be microwave energy transparent if desired.

If desired, the microwave energy interactive element may be supported on a microwave inactive or transparent substrate, for example, a polymer film or other suitable polymeric material, for ease of handling and/or to prevent contact between the microwave energy interactive material and the food item. As used herein the term "polymer" or "polymeric material" includes, but is not limited to, homopolymers, copolymers, such as for example, block, graft, random, and alternating copolymers, terpolymers, etc. and blends and modifications thereof. Furthermore, unless otherwise specifically limited, the term "polymer" shall include all possible geometrical configurations of the molecule. These configurations include, but are not limited to isotactic, syndiotactic, and random symmetries.

Examples of polymer 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, cellulose, or any combination thereof, also may be used.

In one particular example, the polymer film comprises polyethylene terephthalate. Examples of polyethylene terephthalate films that may be suitable for use as the substrate include, but are not limited to, MELINEX[®], commercially available from DuPont Teijian Films (Hopewell, Virginia), and SKYROL, commercially available from SKC, Inc. (Covington, Georgia). Polyethylene terephthalate films are used in commercially available susceptors, for example, the QWIKWAVE[®] Focus susceptor and the MICRORITE[®] susceptor, both available from Graphic Packaging International (Marietta, Georgia).

The thickness of the film generally may be from about 35 gauge to about 10 mil. In each of various examples, the thickness of the film may be from about

40 to about 80 gauge, from about 45 to about 50 gauge, about 48 gauge, or any other suitable thickness.

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 including circles, loops, hexagons, islands, squares, rectangles, octagons, and so forth. Examples of various patterns and methods that may be suitable 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; 5,221,419; 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. Although particular examples of patterns of 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 disclosure.

The microwave energy interactive material may be an electroconductive or semiconductive material, for example, 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 or alloy thereof.

Alternatively, the microwave energy interactive 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
5 interactive material to provide a heating effect, a shielding effect, a browning and/or crisping effect, or a combination thereof. For example, to form a susceptor, ITO may be sputtered onto a clear polymer 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
10 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 still, the microwave energy interactive material may comprise
15 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 various blanks and/or constructs contemplated hereby may be formed
20 according to numerous processes known to those in the art, including using adhesive bonding, thermal bonding, ultrasonic bonding, mechanical stitching, or any other suitable process. Any of the various layers that may be used to form the structures and/or constructs of the invention may be provided as a sheet of material, a roll of material, a die cut material in the shape of the construct to be
25 formed (e.g., a blank), or in any other suitable form.

The blank and/or construct may be formed from any suitable dimensionally stable material, for example, coated paperboard or a similar material. For example, the paperboard may have a basis weight of from about 60 to about 330 lbs/ream, for example, from about 80 to about 140 lbs/ream. The paperboard
30 generally may have a thickness of from about 6 to about 30 mils, for example, from about 10 to about 28 mils. In one particular example, the paperboard has a

thickness of about 12 mils. Any suitable paperboard may be used, for example, a solid bleached or solid unbleached sulfate board, such as SUS® board, commercially available from Graphic Packaging International.

The blank and/or construct can also be constructed of other materials, such as cardboard, hard paper, or any other material having properties suitable for enabling the package to function at least generally as described above. The blank and/or construct can also be laminated to or coated with one or more sheet-like materials at selected panels or panel sections.

Optionally, one or more portions, panels, or sections of the various blanks and/or constructs described herein or contemplated hereby may be coated with varnish, clay, or other materials, either alone or in combination. The coating may then be printed over with product advertising, graphics, or other information or indicia. The blanks and/or constructs also may be coated to protect any information printed thereon. Furthermore, the blanks and/or constructs may be coated with, for example, a moisture barrier layer, on either or both sides.

Alternatively or additionally, any of the blanks and/or constructs of the present invention may be coated or laminated with other materials to impart other properties, such as absorbency, repellency, opacity, color, printability, stiffness, or cushioning. For example, absorbent susceptors are described in U.S. Provisional Application No. 60/604,637, filed August 25, 2004, and U.S. Patent Application Publication No. US 2006/0049190 A1, published March 9, 2006.

Although certain embodiments of this invention have been described with a certain degree of particularity, those skilled in the art could make numerous alterations without departing from the spirit or scope of this invention. Any directional references (e.g., upper, lower, upward, downward, left, right, leftward, rightward, top, bottom, above, below, vertical, horizontal, clockwise, and counterclockwise) are used only for identification purposes to aid the reader's understanding of various embodiments, and do not create limitations, particularly as to the position, orientation, or use of the invention unless specifically set forth in the claims. Joinder references (e.g., joined, attached, coupled, connected, and the like) are to be construed broadly and may include intermediate members

between a connection of elements and relative movement between elements. As such, joinder references do not necessarily imply that two elements are connected directly and in fixed relation to each other.

It will be understood that in each of the various blanks and packages contemplated hereby, a “fold line” can be any substantially linear, although not necessarily straight, form of weakening that facilitates folding therealong. More specifically, but not for the purpose of narrowing the scope of the present invention, a fold line may be a score line, such as lines formed with a blunt scoring knife, or the like, which creates a crushed portion in the material along the desired line of weakness, a cut that extends partially into a material along the desired line of weakness, and/or a series of cuts that extend partially into and/or completely through the material along the desired line of weakness, or any combination of these features.

For example, one type of conventional tear line is in the form of a series of cuts that extend completely through the material, with adjacent cuts being spaced apart slightly so that a nick (e.g., a small somewhat bridging-like piece of the material) is defined between the adjacent cuts for typically temporarily connecting the material across the tear line. The nicks are broken during tearing along the tear line. Such a tear line that includes nicks can also be referred to as a cut line, since the nicks typically are a relatively small percentage of the subject line, and alternatively the nicks can be omitted from such a cut line.

It will be recognized by those skilled in the art, that various elements discussed with reference to the various embodiments may be interchanged to create entirely new embodiments coming within the scope of the present invention. It is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative only and not limiting. Changes in detail or structure may be made without departing from the spirit of the 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.

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, 5 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 10 illustrative and exemplary of the present invention and is made merely for purposes of providing a full and enabling disclosure of the present invention and to set forth the best mode of practicing the invention known to the inventors at the time the invention was made. The detailed description set forth herein is not intended nor is to be construed to limit the present invention or otherwise to 15 exclude any such other embodiments, adaptations, variations, modifications, and equivalent arrangements of the present invention.

WHAT IS CLAIMED IS:

1. A microwave heating construct, comprising:
 - a top panel and a bottom panel in a substantially opposed, facing relationship, the top panel including a movable portion defined at least partially by a pair of opposed cuts in the top panel;
 - a pair of side panels joined to the top panel and the bottom panel for defining an interior space;
 - a susceptor overlying at least a portion of the movable portion of the top panel on a side of the movable portion facing the interior space; and
 - a cross member adapted to
 - extend at least partially across the movable portion, and
 - urge the movable portion toward the interior space.
2. The construct of claim 1, wherein the cuts defining the movable portion are U-shaped.
3. The construct of claim 1, wherein each cut of the pair the cuts defining the movable portion has a somewhat squared U-shape.
4. The construct of any one of claims 1 to 3, wherein the movable portion comprises a plurality of score lines.
5. The construct of claim 4, wherein the score lines are for defining grill marks on a food item disposed within the interior space.
6. The construct of any one of claims 1 to 5, further comprising a pair of top end panels respectively joined to opposite ends of the top panel.
7. The construct of claim 6, further comprising an aperture in each top end panel of the pair of top end panels.
8. The construct of claim 7, wherein

the cross member includes a central portion and a pair of locking features at opposite ends of the cross member, and

the locking features are adapted to engage the apertures in the pair of top end panels.

9. The construct of claim 8, wherein when the locking features engage the apertures in the pair of top end panels, the top end panels extend upwardly from the top panel.

10. The construct of any one of claims 1 to 9, wherein the top panel further includes a marginal portion at least partially circumscribing the movable portion.

11. The construct of claim 10, wherein the movable portion is joined to the marginal portion at attachment areas.

12. The construct of claim 11, wherein the attachment areas are disposed proximate to opposite ends of the top panel distal from the pair of side panels.

13. The construct of any one of claims 10 to 12, wherein
in a first configuration, the movable portion substantially lies in a plane with the marginal portion of the top panel, and

in a second configuration with the locking features engaging the apertures in the top end panels, the movable portion is urged away from the plane of the marginal portion.

14. The construct of any one of claims 1 to 13, wherein the cross member is removably joined to the bottom panel.

15. The construct of any one of claims 1 to 14, further comprising a pair of bottom end panels respectively joined to opposite ends of the bottom panel.

16. The construct of claim 15, wherein the bottom end panels each include a locking projection for engaging locking apertures in at least one side panel of the pair of side panels.

17. The construct of claim 16, wherein with the locking features engaged with the locking apertures, the bottom end panels extend upwardly from the bottom panel so that the bottom end panels are in a facing relationship with the interior space of the construct.

18. The construct of any one of claims 1 to 16, further comprising a tear line in at least one of the adjoined panels, wherein the tear line at least partially defines an access panel.

19. The construct of claim 18, wherein the access panel is in communication with the interior space.

20. The construct of claim 18 or 19, wherein the tear line is a first tear line of a plurality of tear lines at least partially defining the access panel.

21. The construct of claim 20, wherein
the pair of side panels includes a first side panel and a second side panel, and
the plurality of tear lines at least partially defining the access panel comprises a pair of tear lines in the first side panel extending divergently from the top panel towards the bottom panel.

22. The construct of claim 21, wherein
the pair of tear lines in the first side panel extending divergently from the top panel towards the bottom panel comprises the first tear line and a second tear line, and
the plurality of tear lines at least partially defining the access panel further comprises a third tear line extending between opposite ends of the first side panel distal from the top panel and the bottom panel.

23. The construct of claim 21, wherein

the pair of tear lines in the first side panel extending divergently from the top panel towards the bottom panel comprises the first tear line and a second tear line, and

the plurality of tear lines at least partially defining the access panel further comprises

a third tear line extending from the first tear line towards a first end of the first side panel, and

a fourth tear line extending from the second tear line towards a second end of the first side panel.

24. The construct of claim 23, wherein the third tear line and fourth tear line at least partially join the first side panel to the bottom panel.

25. The construct of any one of claims 18 to 24, wherein the access panel comprises a tab.

26. The construct of claim 25, wherein the tab is defined at least partially by a cut in the top panel.

27. The construct of any one of claims 1 to 26, in combination with a food item, wherein the food item has a surface that is desirably browned and/or crisped.

28. The combination of claim 27, wherein the food item is disposed within the interior space, and the cross member urges the susceptor of the movable portion towards the surface of the food item.

29. A blank for forming a microwave heating construct, comprising:

a plurality of adjoining panels, each of the adjoining panels having a first dimension extending in a first direction and a second dimension extending in a second direction substantially perpendicular to the first direction, the plurality of adjoining panels including

a first major panel,

a first minor panel joined to the first major panel along a fold line extending in the first direction,

a second major panel joined to the first minor panel along a fold line extending in the first direction, the second major panel including a movable portion defined at least partially by a pair of opposed cuts, and

a cross member panel separably joined to at least one of the adjoining panels; and

a susceptor overlying the movable portion of the second major panel.

30. The blank of claim 29, wherein the cuts defining the movable portion are U-shaped.

31. The blank of claim 29 or 30, wherein the movable portion includes a plurality of score lines.

32. The blank of claim 31, wherein the score lines are substantially parallel to one another.

33. The blank of any one of claims 29 to 32, the adjoining panels further including
a first pair of opposed end panels joined to the first major panel along respective fold lines extending in the second direction, and
a second pair of opposed end panels joined to the second major panel along respective arcuate fold lines extending in the second direction.

34. The blank of claim 33, wherein the first pair of opposed end panels each include a locking projection adjacent to the minor panel.

35. The blank of claim 34, wherein the first minor panel includes a pair of locking apertures proximate to opposite ends of the first minor panel, the pair of locking apertures being for receiving the locking projections of the first pair of end panels.

36. The blank of any one of claims 29 to 35, further comprising a pair of tear lines in the first minor panel extending substantially between the first major panel and the second major panel.

37. The blank of claim 36, wherein the pair of tear lines extend convergently from the first major panel to the second major panel.

38. The blank of claim 36 or 37, wherein
the pair of tear lines in the first minor panel comprises a first tear line and a second tear line, and

the first minor panel further includes a third tear line extending in the first direction between opposite ends of the first minor panel distal from the first major panel and the second major panel.

39. The blank of claim 36 or 37, wherein
the pair of tear lines in the first minor panel comprises a first tear line and a second tear line, and

the first minor panel further includes

a third tear line extending in the first direction from the first tear line towards a first end of the first minor panel, and

a fourth tear line extending in the first direction from the second tear line towards a second end of the first minor panel.

40. The blank of claim 39, wherein the third tear line and fourth tear line at least partially join the first major panel to the first minor panel.

41. The blank of any one of claims 39 to 40, the adjoining panels further including a second minor panel joined to the second major panel along a fold line extending in the first direction.

42. The blank of claim 41, the adjoining panels further including an attachment panel joined to the second minor panel along a fold line extending in the first direction, wherein the cross member panel is separably joined to the attachment panel along a tear line.

43. A method of heating, browning, and/or crisping a food item in a microwave oven, comprising: providing a construct including
- a top panel and a bottom panel in a substantially opposed, facing relationship, the top panel including a movable portion, a pair of side panels joined to the top panel and the bottom panel for defining an interior space,
 - a susceptor overlying at least a portion of the movable portion of the top panel on a side of the movable portion facing the interior space, and
 - a cross member;
- inserting a food item in the interior space, the food item having at least one surface intended to be browned and/or crisped, the surface of the food item being adjacent to the susceptor; and
- configuring the cross member to extend at least partially across the movable portion, thereby engaging the movable portion and urging the movable portion toward the interior space.
44. The method of claim 43, wherein the movable portion is defined at least partially by a pair of opposed cuts in the top panel.
45. The method of claim 43 or 44, wherein the cuts defining the movable portion are U-shaped.
46. The method of any one of claims 43 to 45, further comprising exposing the food item within the interior space to microwave energy, whereby the susceptor overlying the movable portion converts at least a portion of the microwave energy into thermal energy to brown and/or crisp the surface of the food item.
47. The method of any one of claims 43 to 45, wherein
- the construct further includes a pair of top end panels respectively joined to opposite ends of the top panel, and
 - configuring the cross member to extend at least partially across the movable portion comprises engaging the top end panels.

48. The method of claim 47, wherein
the cross member includes a pair of locking features at opposite ends of the cross member,
each top end panel includes an aperture, and
engaging the top end panels comprises mating the locking features with the apertures.
49. The method of claim 48, wherein
the cross member includes a central portion disposed between the locking features, and
configuring the cross member to extend at least partially across the movable portion comprises engaging the movable portion with the central portion of the cross member.
50. The method of any one of claims 43 to 49, wherein
the construct includes an access panel defined by a plurality of tear lines, and
the method further comprises opening the access panel along the plurality of tear lines and removing the food item from the interior space.
51. A microwave heating construct, comprising:
a top panel and a bottom panel opposite one another, the top panel including a pair of opposed cuts that defines a movable portion of the top panel, wherein the movable portion includes microwave energy interactive material, the microwave energy interactive material being operative for converting at least a portion of impinging microwave energy into heat;
a pair of side panels joined to the top panel and the bottom panel, the pair of side panels, top panel, and bottom panel defining an interior space; and
a cross member for extending at least partially across the movable portion of the top panel and urging the movable portion toward the interior space.
52. The construct of claim 51, wherein the pair of opposed cuts that define the movable portion are U-shaped.

53. The construct of claim 51, wherein each cut of the pair of opposed cuts that define the movable portion has a somewhat squared U-shape.

54. The construct of any one of claims 51 to 53, wherein the movable portion comprises a plurality of score lines.

55. The construct of claim 54, wherein the score lines are for defining grill marks on a food item disposed within the interior space.

56. The construct of any one of claims 51 to 55, further comprising a pair of top end panels joined to opposite ends of the top panel.

57. The construct of claim 56, wherein the top end panels each include an aperture.

58. The construct of claim 57, wherein
the cross member includes a pair of locking features disposed at opposite ends of the cross member, and
the locking features are for engaging the apertures in the top end panels.

59. The construct of claim 58, wherein when the locking features engage the apertures in the top end panels, the top end panels extend upwardly from the top panel.

60. The construct of any one of claims 51 to 59, wherein the top panel further includes a marginal portion extending at least partially around the movable portion.

61. The construct of claim 60, wherein the movable portion is joined to the marginal portion at attachment areas.

62. The construct of claim 61, wherein the attachment areas are disposed proximate to opposite ends of the top panel distal from the pair of side panels.

63. The construct of any one of claims 60 to 62, wherein
in a first configuration, the movable portion substantially lies in a plane with the marginal portion of the top panel, and
in a second configuration with the locking features engaging the respective apertures in the top end panels, the movable portion is urged out the plane of the marginal portion.
64. The construct of any one of claims 51 to 63, further comprising a pair of bottom end panels joined to opposite ends of the bottom panel.
65. The construct of claim 64, wherein the bottom end panels each include a locking projection for engaging locking apertures in at least one side panel of the pair of side panels.
66. The construct of claim 65, wherein with the locking projections engaged with the locking apertures, the bottom end panels extend upwardly from the bottom panel so that the bottom end panels are in a facing relationship with the interior space of the construct.
67. The construct of any one of claims 51 to 66, further comprising an access panel defined by at least one line of disruption.
68. The construct of claim 67, wherein the access panel is in communication with the interior space.
69. The construct of claim 67 or 68, wherein
the pair of side panels includes a first side panel and a second side panel, and
the at least one line of disruption comprises a pair of lines of disruption in the first side panel extending divergently from the top panel towards the bottom panel.
70. The construct of claim 69, wherein

the pair of lines of disruption of the first side panel extending divergently from the top panel towards the bottom panel comprises a first line of disruption and a second line of disruption, and

the at least one line of disruption further comprises a third line of disruption extending between opposite ends of the first side panel distal from the top panel and the bottom panel.

71. The construct of claim 69, wherein

the pair of lines of disruption of the first side panel extending divergently from the top panel towards the bottom panel comprises a first line of disruption and a second line of disruption, and

the at least one line of disruption further comprises

a third line of disruption extending from the first line of disruption towards a first end of the first side panel, and

a fourth line of disruption extending from the second line of disruption towards a second end of the first side panel.

72. The construct of claim 71, wherein the first side panel is joined to the bottom panel at least partially by the third line of disruption and the fourth line of disruption.

73. The construct of any one of claims 70 to 72, wherein at least one of the first line of disruption, second line of disruption, third line of disruption, and fourth line of disruption comprises a tear line.

74. The construct of any one of claims 67 to 72, wherein the access panel comprises a tab.

75. The construct of claim 74, wherein the tab is defined at least partially by a cut in the top panel.

76. The construct of any one of claims 51 to 75, wherein the cross member is separably joined to the bottom panel.

77. The construct of claim 76, wherein the cross member is separably joined to the bottom panel along a tear line.

78. The construct of any one of claims 51 to 77, wherein at least one of the bottom panel and the pair of side panels includes microwave energy interactive material operative for converting at least a portion of impinging microwave energy into heat.

79. The construct of any one of claims 51 to 78, in combination with a food item, wherein the food item has a surface that is desirably browned and/or crisped.

80. The combination of claim 79, wherein
the food item is disposed within the interior space of the microwave heating construct, and

the cross member urges the microwave energy interactive material of the movable portion towards the surface of the food item.

81. A blank for forming a microwave heating construct, comprising:

a plurality of adjoining panels, each of the adjoining panels having a first dimension extending in a first direction and a second dimension extending in a second direction substantially perpendicular to the first direction, the plurality of adjoining panels including

a first major panel,

a first minor panel joined to the first major panel along a first fold line extending in the first direction, and

a second major panel joined to the first minor panel along a second fold line extending in the first direction, the second major panel including a movable portion defined at least partially by a pair of opposed cuts in the second major panel, wherein the movable portion includes microwave energy interactive material operative for generating heat when exposed to microwave energy, and

a cross member panel.

82. The blank of claim 81, wherein the cross member panel is separably joined to at least one of the adjoining panels

83. The blank of claim 81, wherein the cuts defining the movable portion of the second major panel are U-shaped.

84. The blank of any one of claims 81 to 83, wherein the movable portion includes a plurality of score lines.

85. The blank of claim 84, wherein the score lines are substantially parallel to one another.

86. The blank of any one of claims 81 to 85, wherein the plurality of adjoining panels further includes

a first pair of end panels joined to the first major panel along respective fold lines extending in the second direction, and

a second pair of end panels joined to the second major panel along respective arcuate fold lines extending in the second direction,

wherein the first pair of end panels are opposite one another and the second pair of end panels are opposite one another.

87. The blank of claim 86, wherein the first pair of end panels each include a locking projection adjacent to the minor panel.

88. The blank of claim 87, wherein the first minor panel includes a pair of locking apertures proximate to opposite ends of the first minor end, the pair of locking apertures being for receiving the locking projections of the first pair of end panels.

89. The blank of any one of claims 81 to 88, wherein the first minor panel includes a pair of lines of disruption extending substantially between the first major panel and the second major panel.

90. The blank of claim 89, wherein the pair of lines of disruption extend convergently from the first major panel to the second major panel.

91. The blank of claim 89 or 90, wherein
the pair of lines of disruption in the first minor panel comprises a first line of disruption and a second line of disruption, and
the first minor panel further includes a third line of disruption extending in the first direction between opposite ends of the first minor panel distal from the first major panel and the second major panel.

92. The blank of claim 89 or 90, wherein
the pair of lines of disruption in the first minor panel comprises a first line of disruption and a second line of disruption, and
the first minor panel further includes
a third line of disruption extending in the first direction from the first line of disruption towards a first end of the first minor panel, and
a fourth line of disruption extending in the first direction from the second line of disruption towards a second end of the first minor panel.

93. The blank of claim 92, wherein the third line of disruption and the fourth line of disruption at least partially join the first major panel to the first minor panel.

94. The blank of any one of claims 91 to 93, wherein at least one of the first line of disruption, second line of disruption, third line of disruption, and fourth line of disruption comprises a tear line.

95. The blank of any one of claims 81 to 94, wherein the plurality of the adjoined panels further includes a second minor panel joined to the second major panel along a third fold line extending in the first direction.

96. The blank of claim 95, wherein the plurality of the adjoined panels further includes an attachment panel joined to the second minor panel along a fourth fold line extending in the first direction.

97. The blank of claim 96, wherein the cross member panel is separably joined to the attachment panel.

98. The blank of any one of claims 81 to 97, wherein at least one of the first major panel and the first minor panel includes microwave energy interactive material operative for generating heat when exposed to microwave energy.

99. A method of heating, browning, and/or crisping a food item in a microwave oven, comprising:

exposing a food item in a microwave heating construct to microwave energy, the food item having at least one surface intended to be browned and/or crisped, the microwave heating construct including

a top panel and a bottom panel opposite one another, the top panel including a movable portion comprising microwave energy interactive material operative for generating heat in response to microwave energy,

a pair of side panels joined to the top panel and the bottom panel, wherein the top panel, bottom panel, and side panels define an interior space in which the food item is received, and

a cross member extending at least partially across the movable portion, wherein the cross member urges the movable portion of the top panel toward the interior space so that the microwave energy interactive material of the movable portion is proximate to the surface of the food item so that the microwave energy interactive material of the movable portion generates heat in response to the microwave energy and browns and/or crisps the surface of the food item.

100. The method of claim 99, wherein the movable portion is defined at least partially by a pair of opposed cuts in the top panel.

101. The method of claim 99 or 100, wherein the cuts defining the movable portion are U-shaped.

102. The method of any one of claims 99 to 101, further comprising activating an access panel of the microwave heating construct to access the food item.

103. The method of claim 102, wherein activating the access panel of the microwave heating construct comprises tearing the microwave heating construct along at least one tear line.

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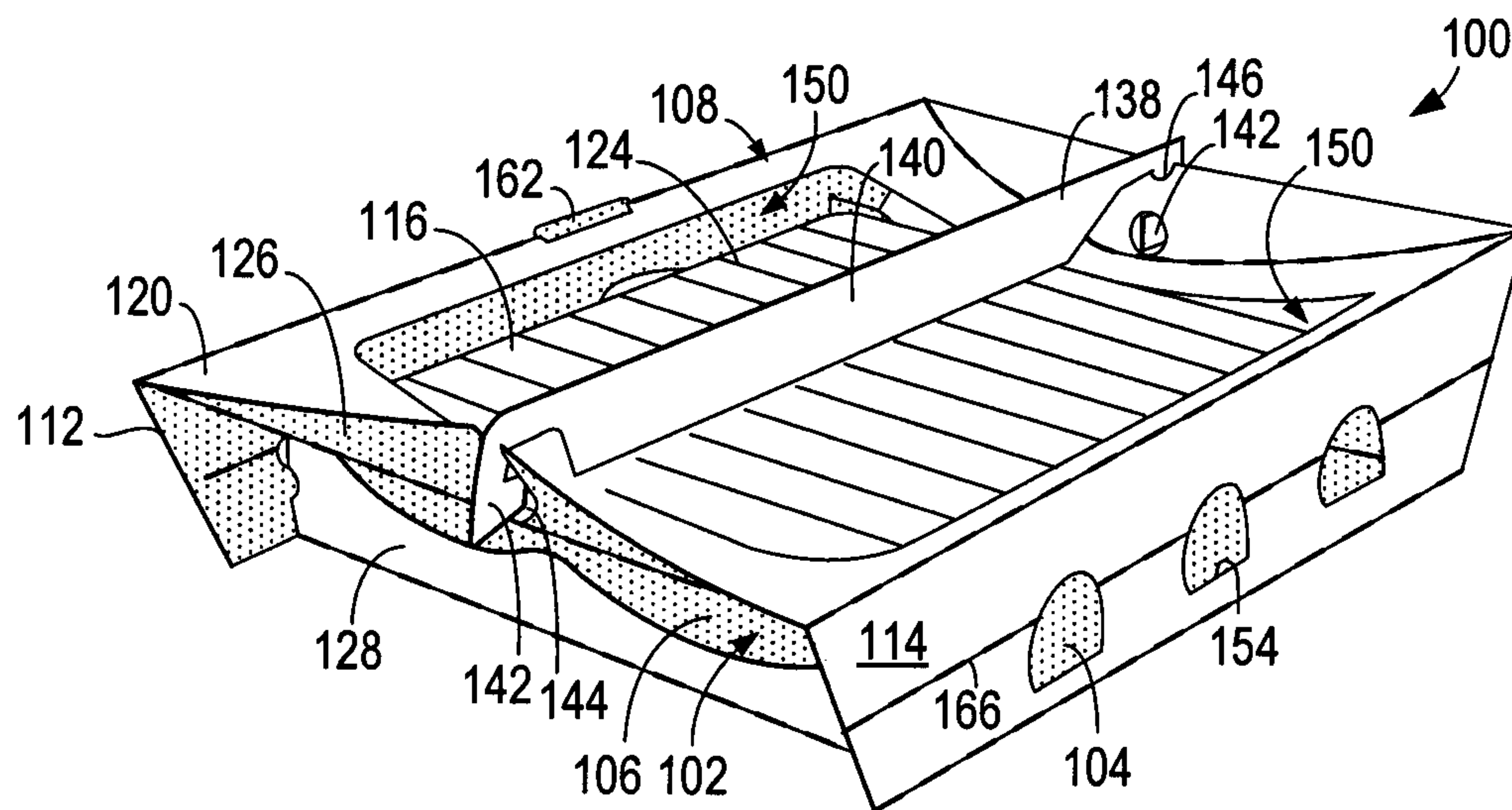


FIG. 1A

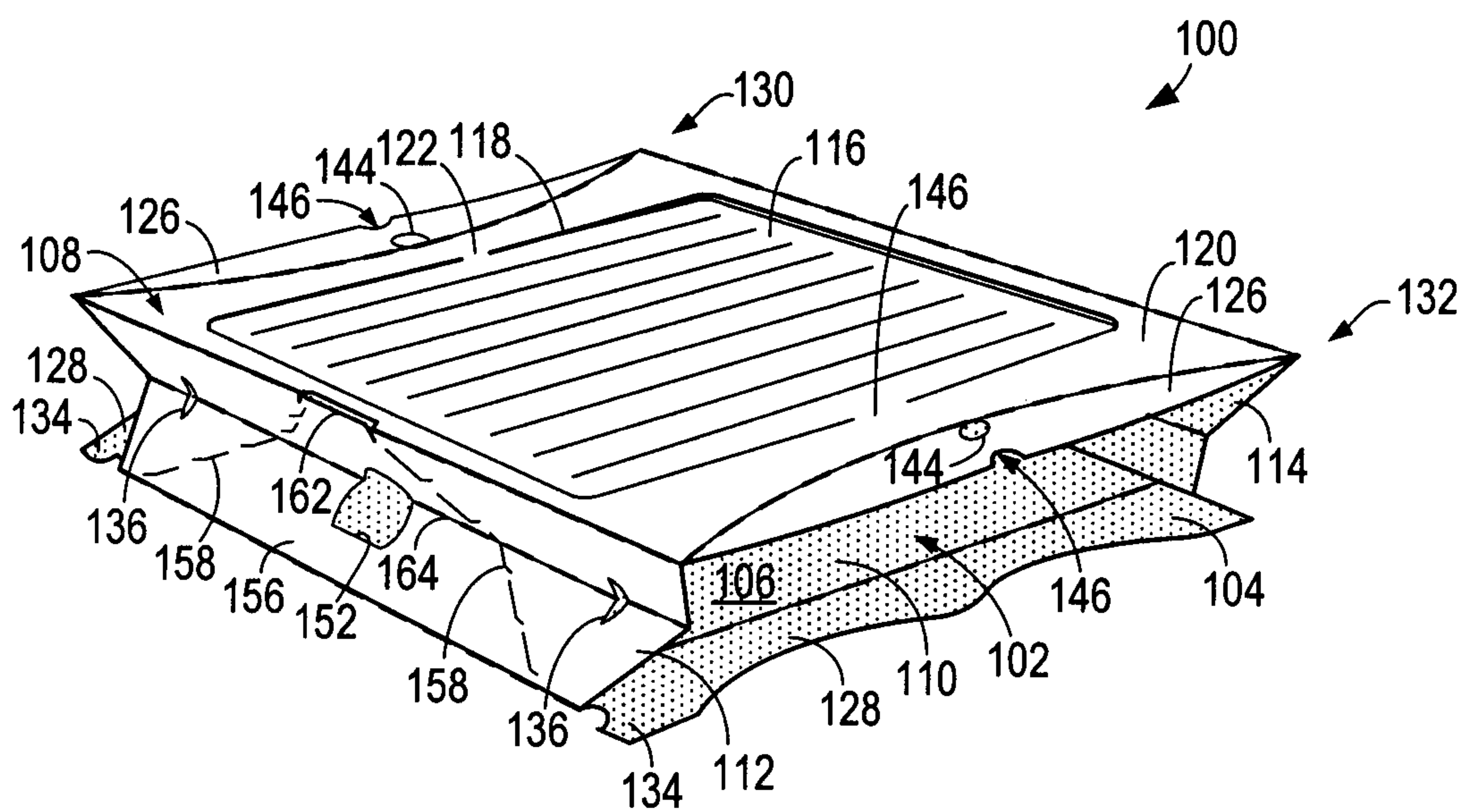


FIG. 1B

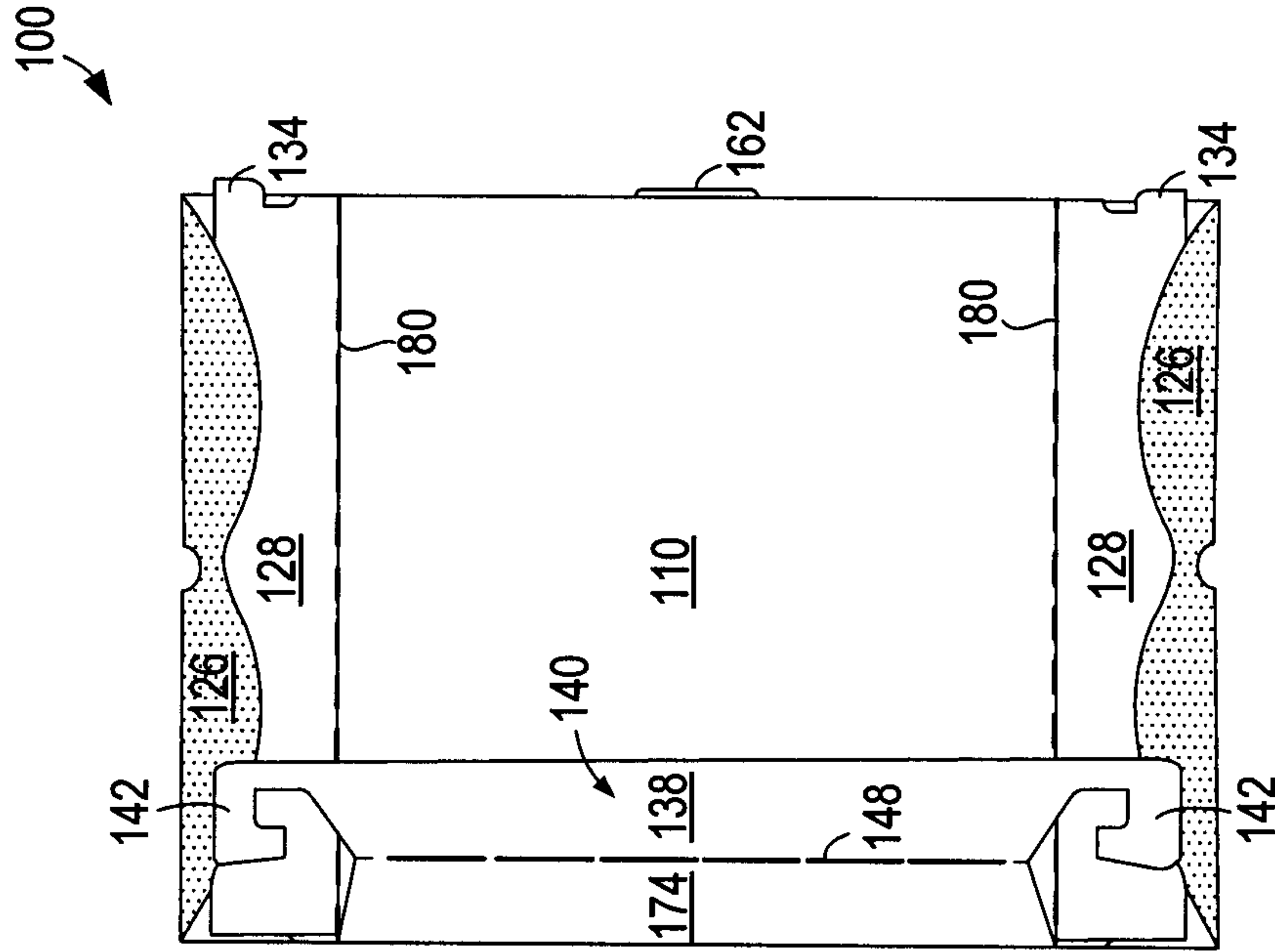


FIG. 1D

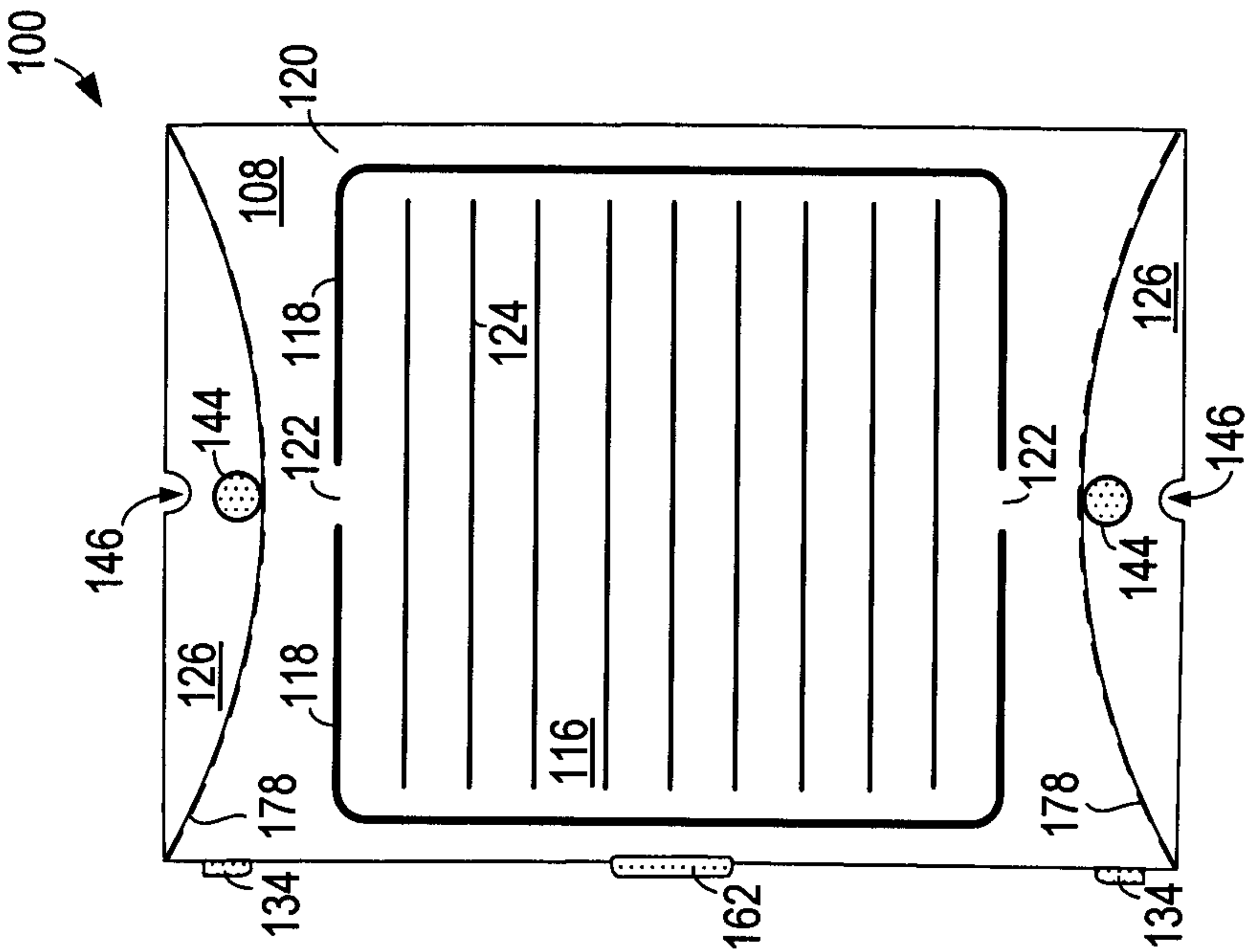


FIG. 1C

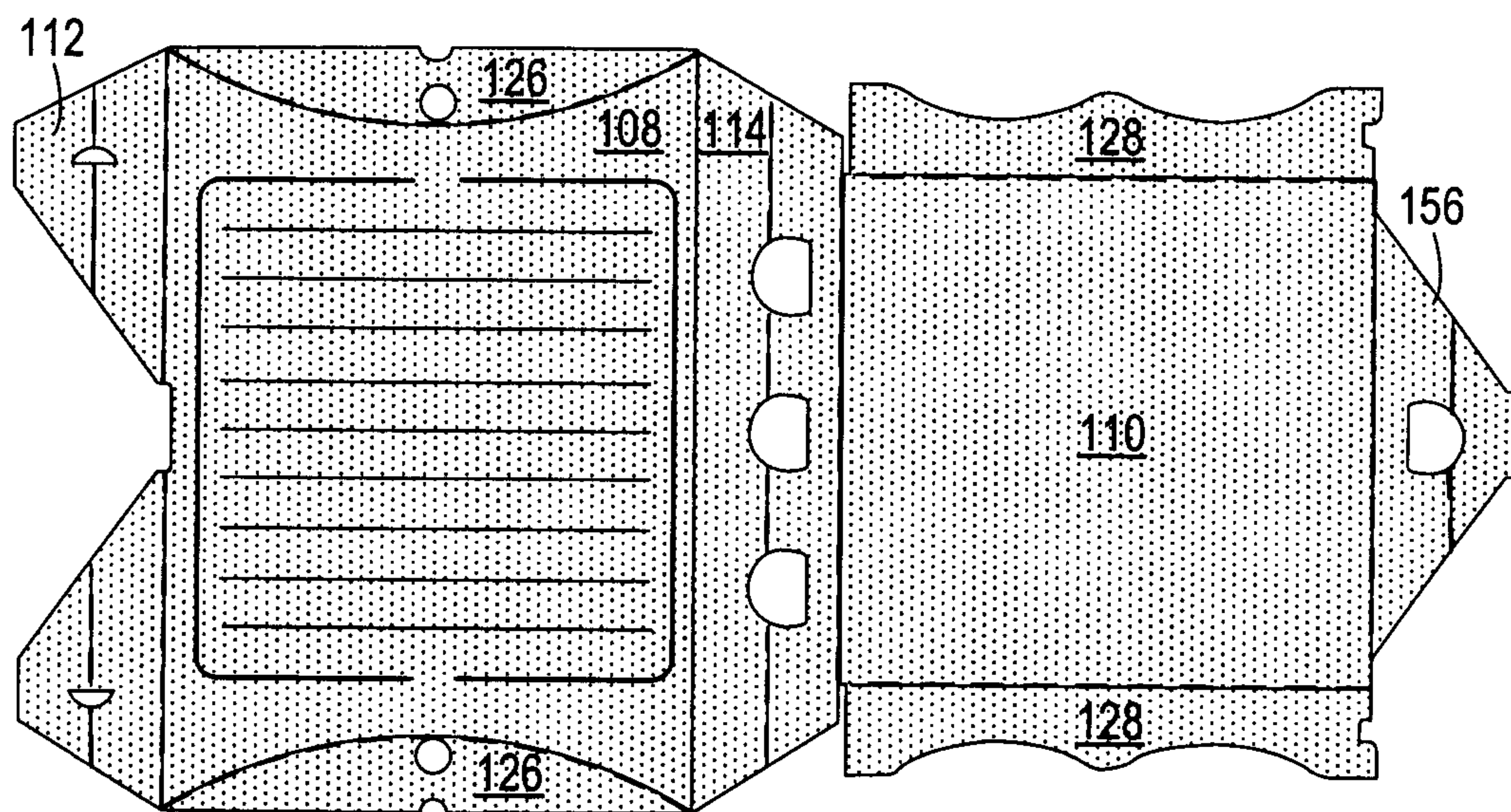


FIG. 1E

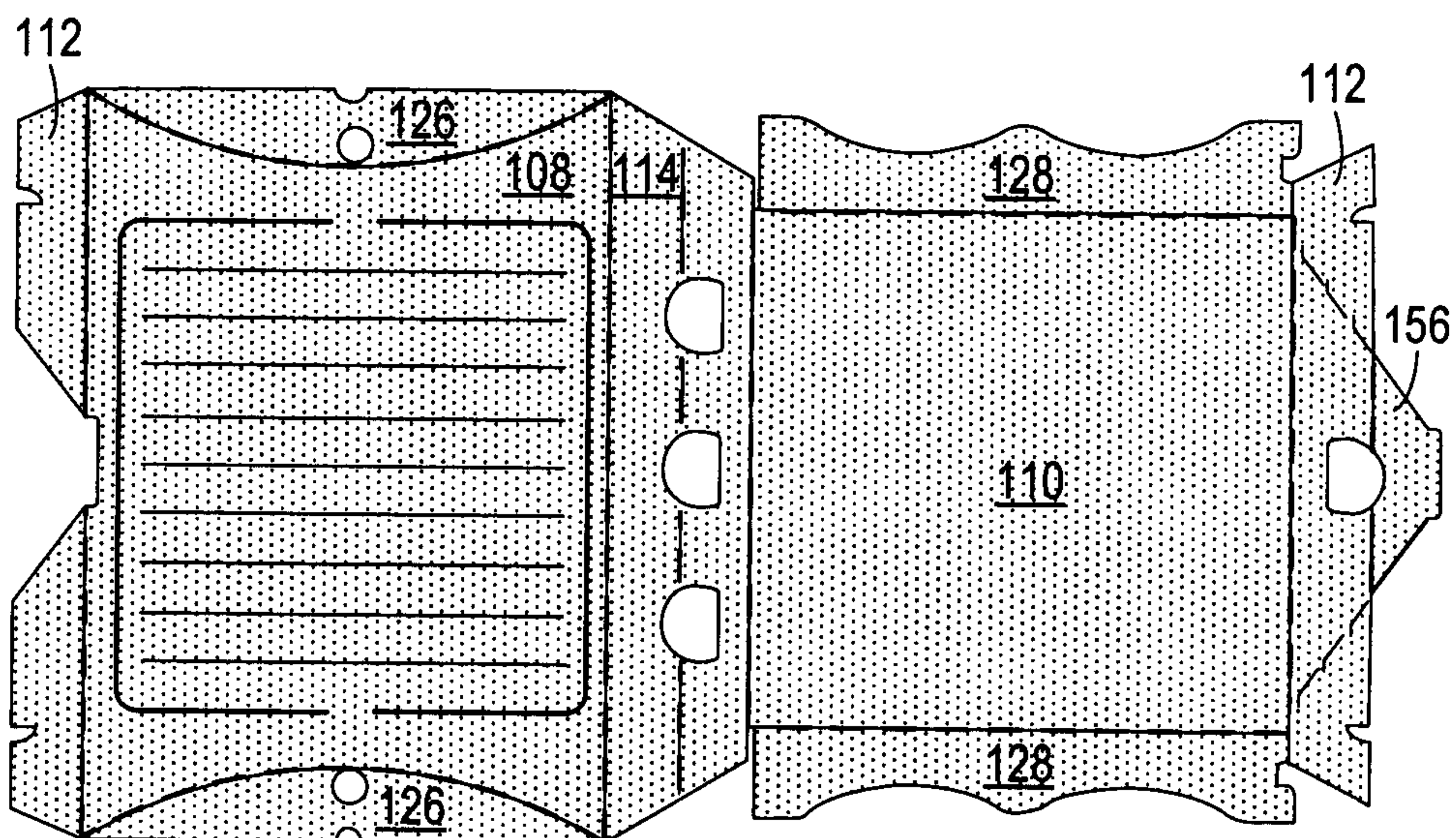


FIG. 1F

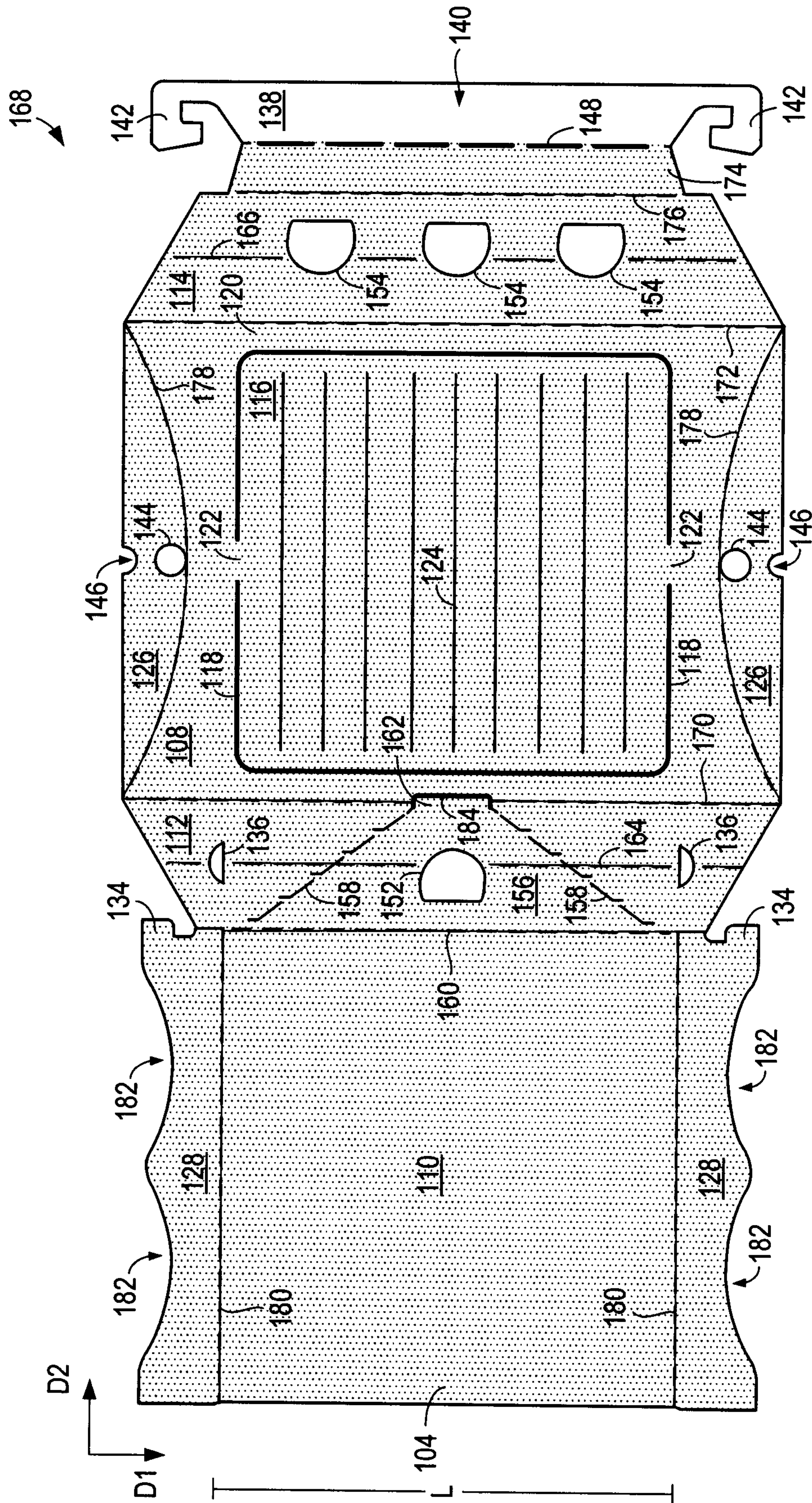
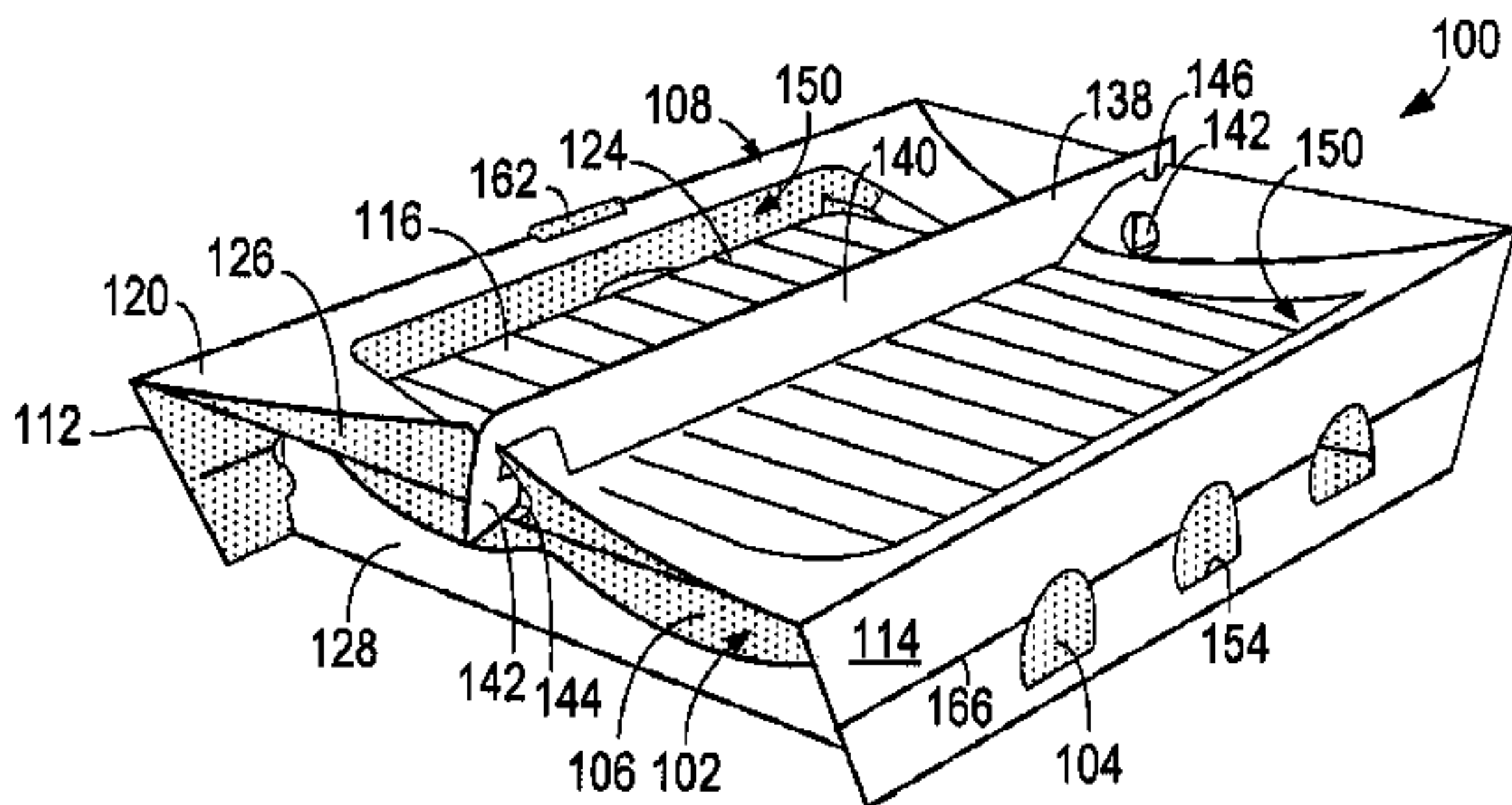
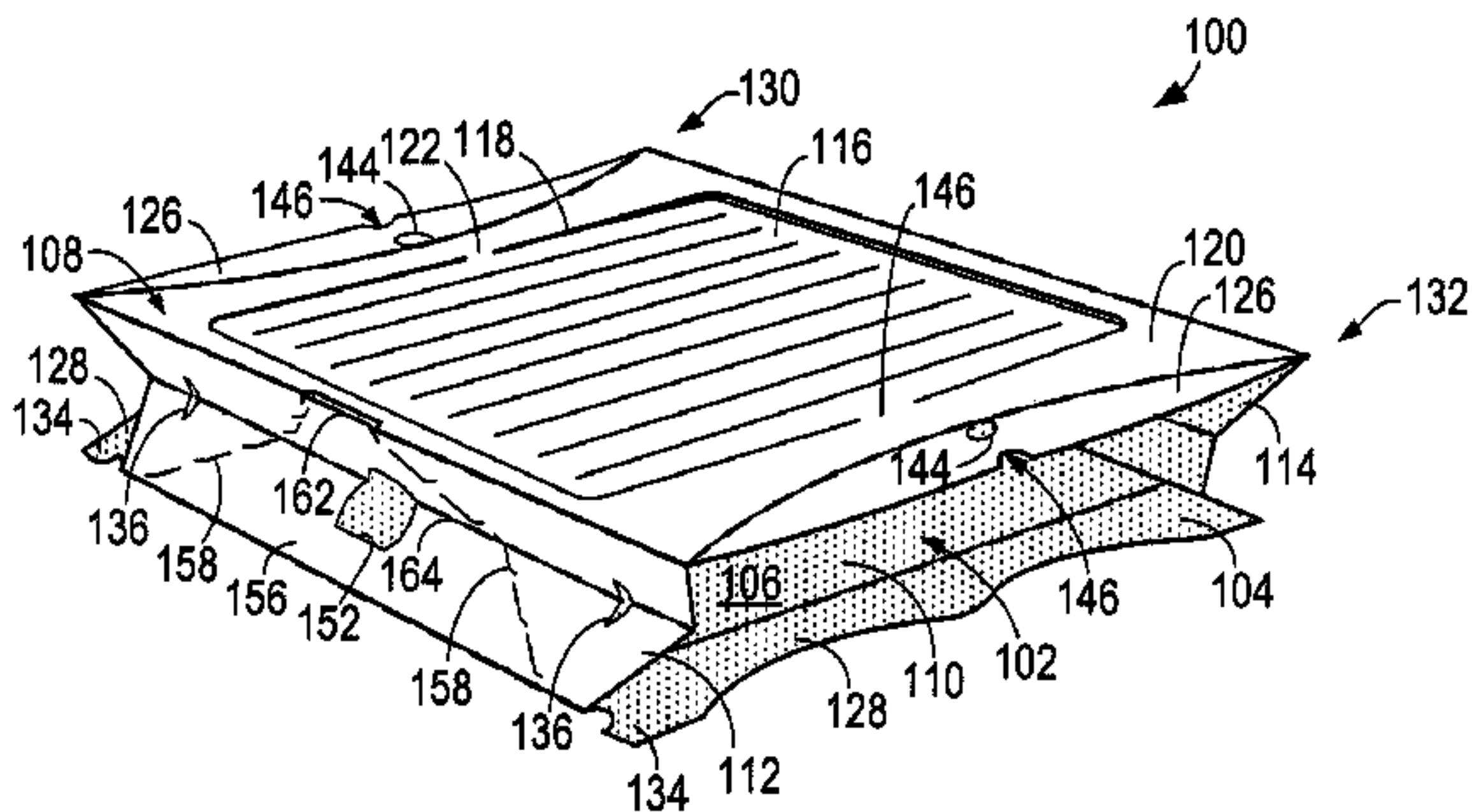


FIG. 1G



A



B