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(54) **PRODUCT PACKAGE HAVING MULTI-LAYER LABELING COVER ASSEMBLY**

(76) Inventor: **Silvio Weder**, Parkville, MO (US)

Correspondence Address:
BLACKWELL SANDERS PEPER MARTIN LLP
TWO PERSHING SQUARE
2300 MAIN STREET, SUITE 1000
KANSAS CITY, MO 64108 (US)

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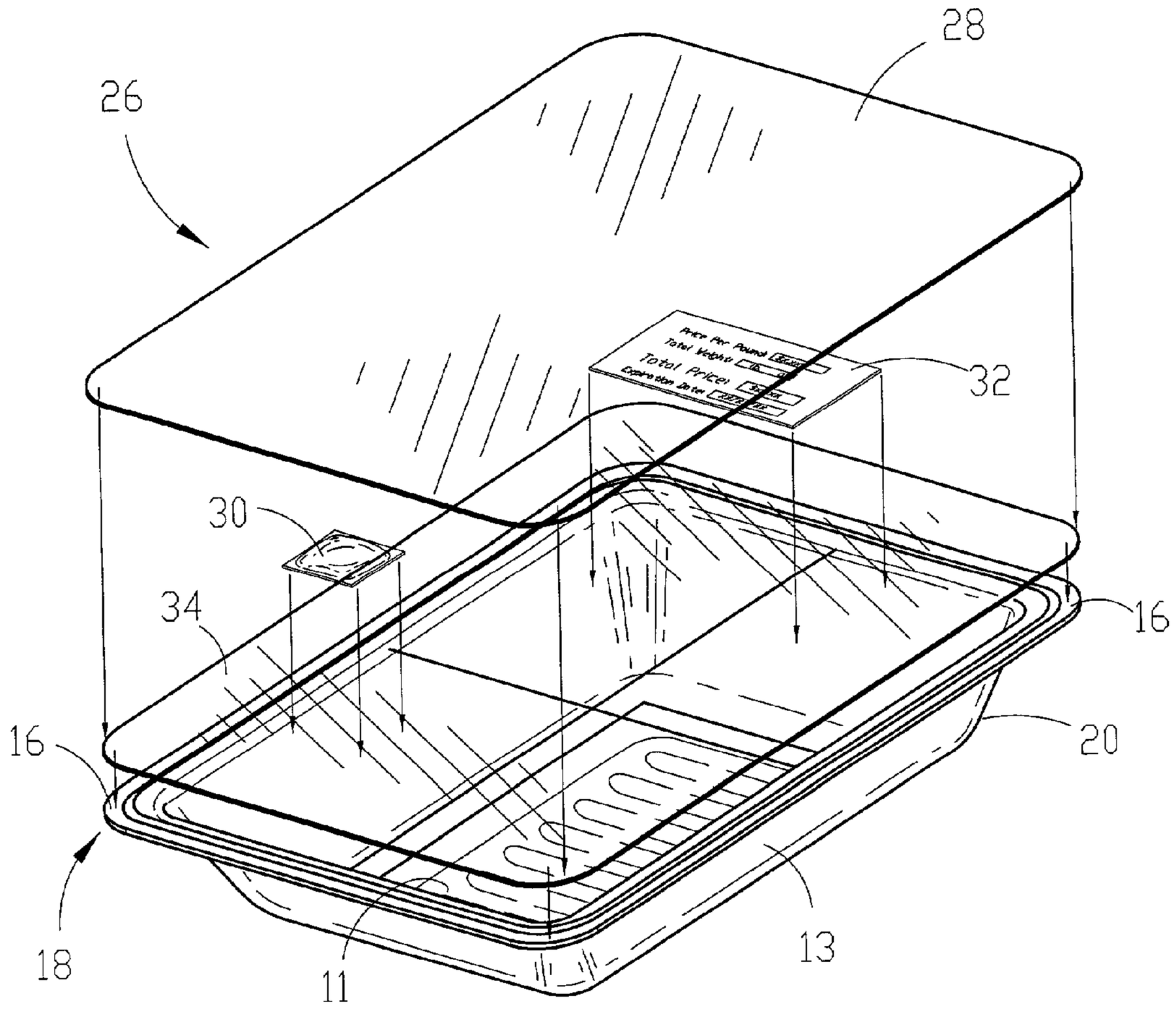
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(57) **ABSTRACT**

A product package (**10**) having multi-layer labeling cover assembly (**26**), having a container base (**20**), a display layer (**34**), a label (**32**), an oxygen absorber (**30**) and a protective layer (**28**), is utilized to provide a product package that can have the top protective layer of the cover assembly removed for display purposes without requiring the package to be relabeled. The container base has a plurality of sidewalls (**13**) extending upwards from the container base, ending in a perimeter lip (**18**) around the top of the sidewalls. The display film layer is attached to the perimeter lip to close the container. The label and oxygen absorber are positioned on the display layer. A protective film layer is placed over the label and oxygen absorber and adhered to the display layer around the perimeter of the container.



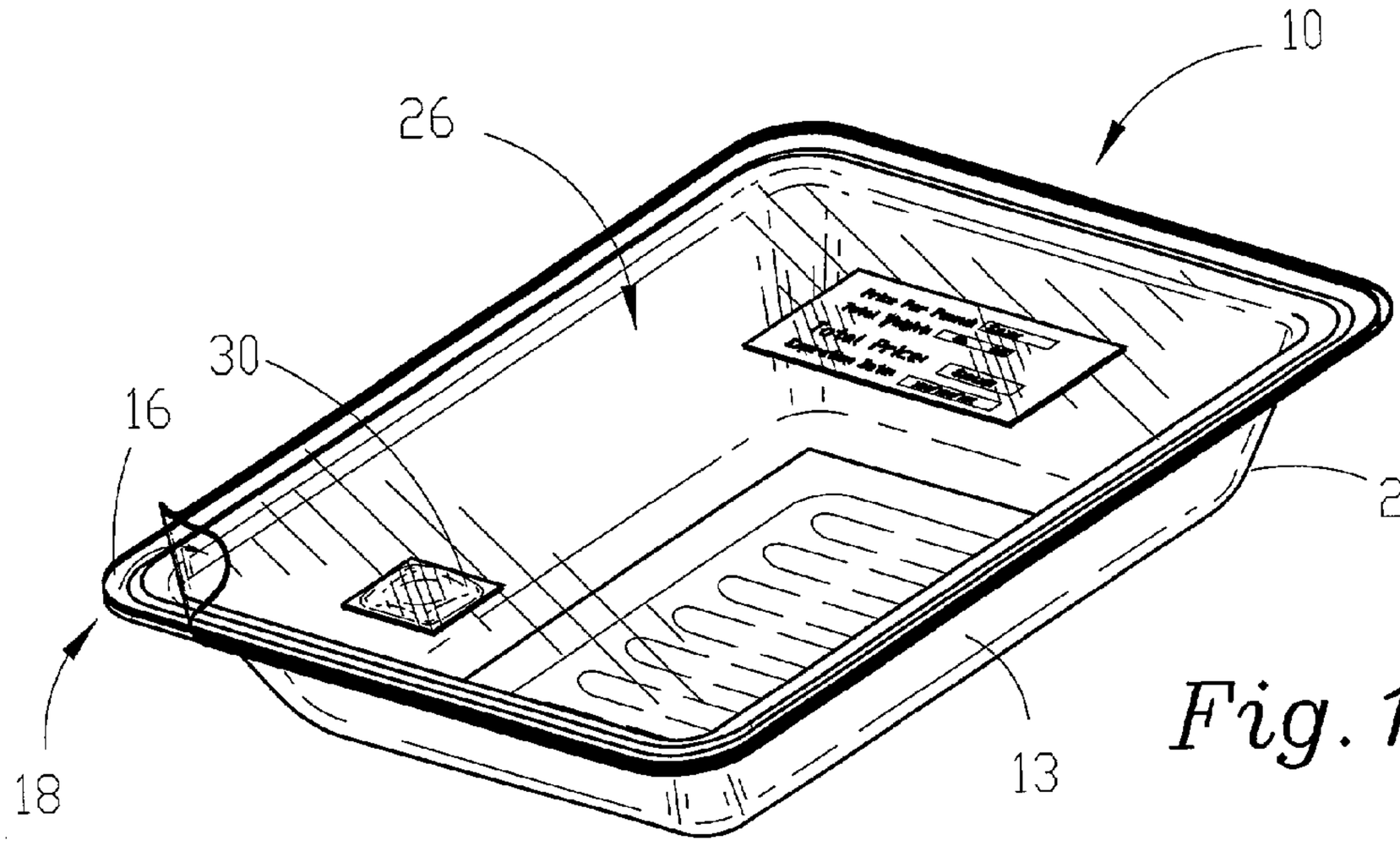


Fig. 1.

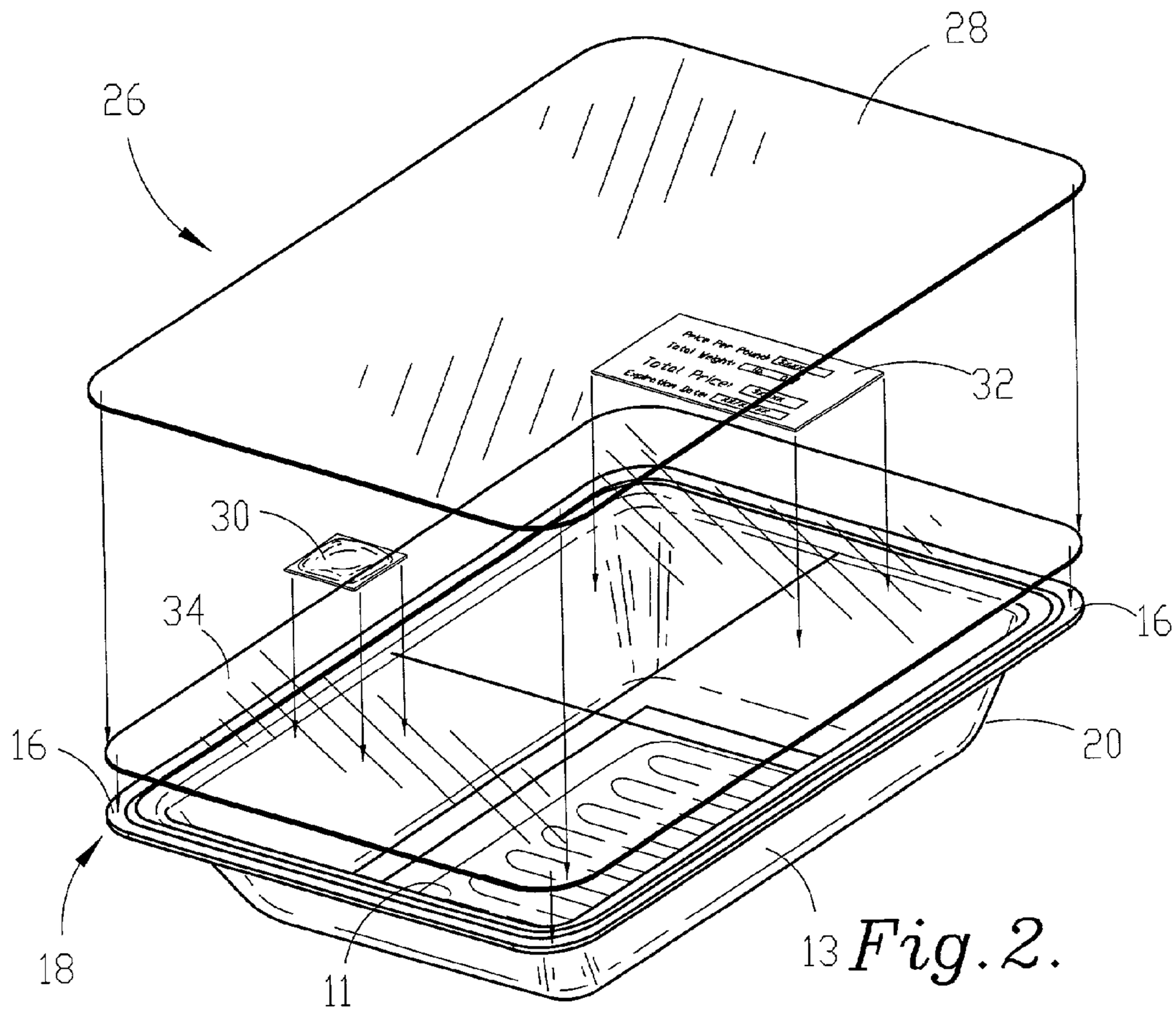


Fig. 2.

Fig. 3.

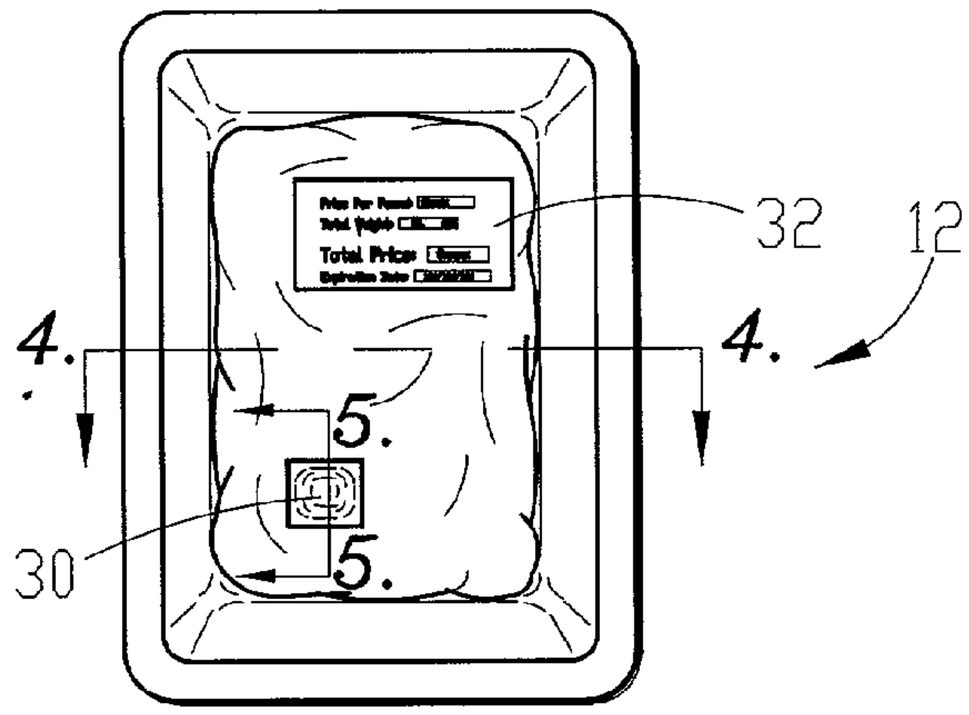
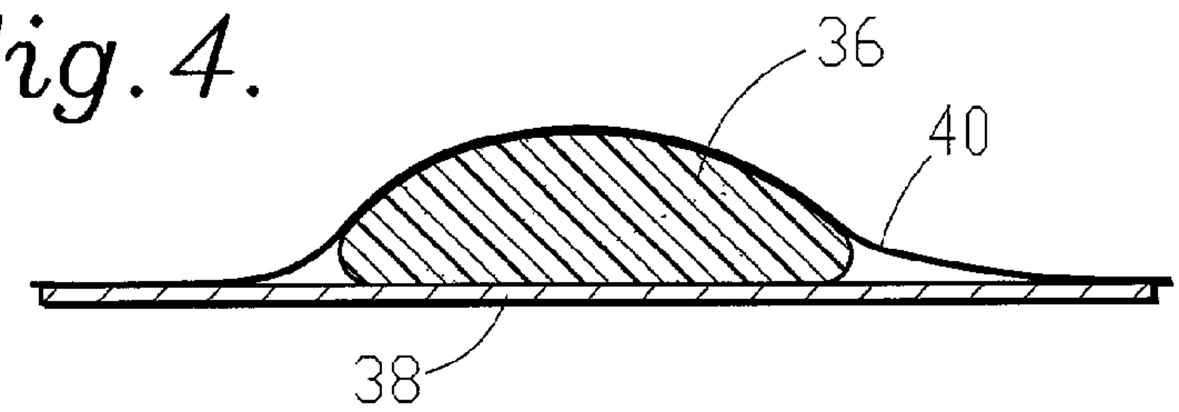


Fig. 4.



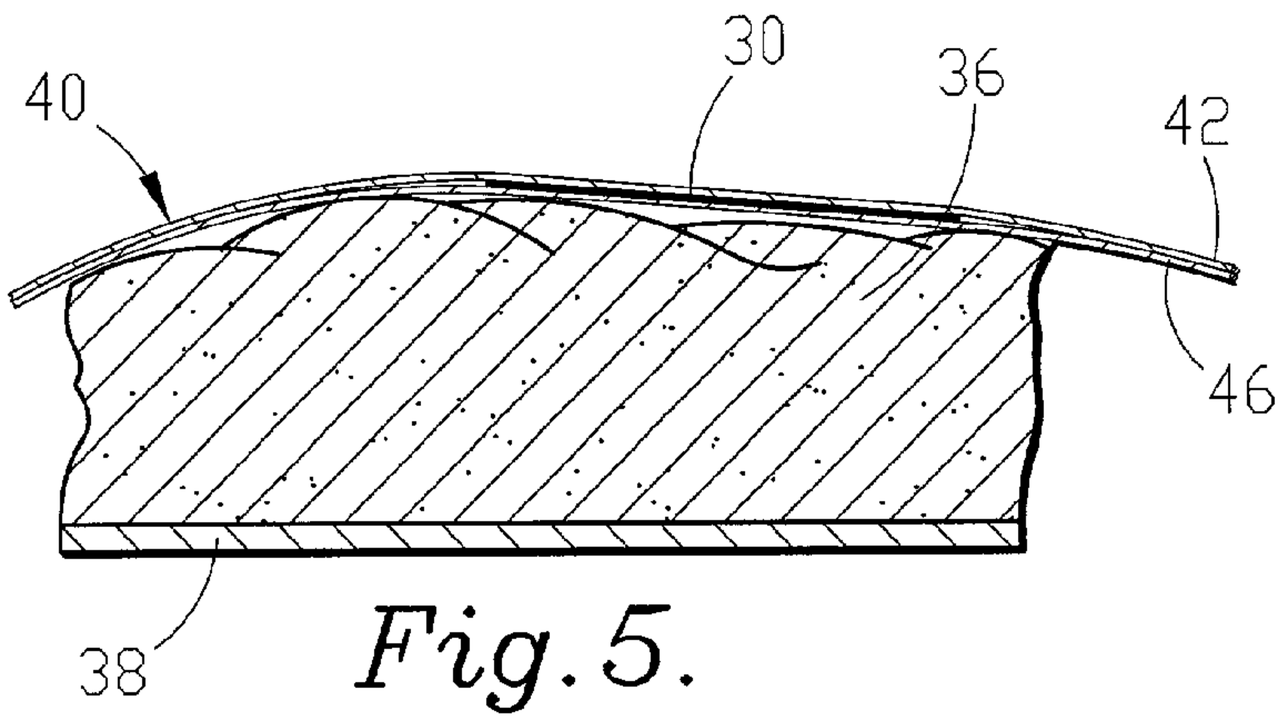


Fig. 5.

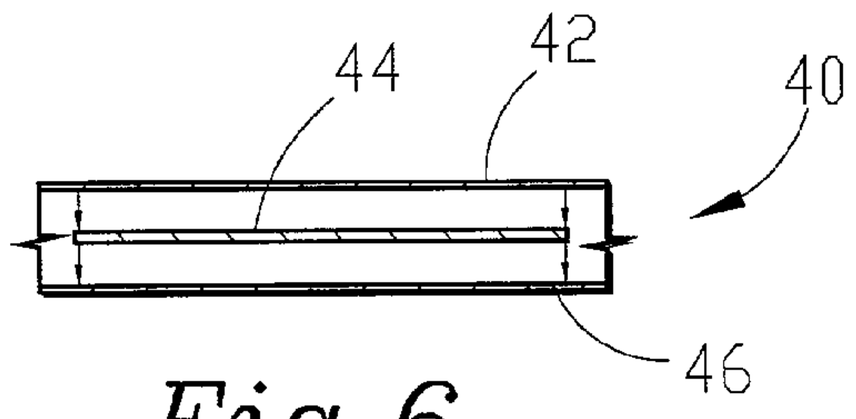


Fig. 6.

PRODUCT PACKAGE HAVING MULTI-LAYER LABELING COVER ASSEMBLY

BACKGROUND OF THE INVENTION

[0001] The invention relates to vacuum sealed packaging using film layers of differing gas permeabilities to control the internal gas composition of the package. The invention includes both a new product package and a new packaging method. This invention is applicable in all packaging situations, but is most applicable to packaging perishable items, such as meat.

[0002] Vacuum sealed packaging is known in the industry as a superior method for preserving items during shipping and display. Vacuum sealed packaging allows a supplier to control the internal gas composition of the package and stabilize the item during shipping. These advantages protect and preserve an item, increasing the items' shelf life and eye-appeal to consumers.

[0003] There are various forms of vacuum sealed packaging, and vacuum sealing is particularly popular for packaging perishable items. Previous packages used a rigid, preformed base for holding meat, fish or produce, with a plastic layer closing the top of the container base. While the layer was heat sealed onto the container, gas could be evacuated from the container around the perishable item. In some instances, the evacuated gas would be replaced with a more preferable inert gas, for example Nitrogen, which helped preserve the perishable item.

[0004] For some items, packagers needed a preservative gas in the packaging during shipment and a different gas when the package was on display. For example, when packaging red meat, the presence of oxygen during shipping would spoil the meat, but the absence of oxygen during presentation would make the meat appear blue and unappetizing to consumers. The oxygen content of the packaging had to be manipulated to provide both a long shelf life and a consumer preferred presentation. The answer to this oxygen dilemma was a dual-layer laminate with differing gas permeabilities.

[0005] The dual-layer laminate had a gas impermeable top layer that prevented oxygen from entering the packaging during shipment. Once the vacuum sealed meat reached the retailer, the top layer was peeled off to expose the gas permeable bottom layer. This bottom layer allowed air to pass through, thereby exposing the meat to oxygen and turning the meat red.

[0006] While the dual film layer laminate is a definite advantage and improvement over previous perishable item containers, it has a significant drawback for retailers. Labels for the item are placed on the packages' top layers when they leave the supplier's packaging plant. When the retailer removes the top layer to expose the meat to oxygen, the label is also removed. The packages must be re-labeled before they can be set out for consumers. Re-labeling requires extra expense and extra time on the part of the retailer.

BRIEF DESCRIPTION OF DRAWINGS

[0007] **FIG. 1** is a perspective view of a product package according to the present invention;

[0008] **FIG. 2** is an exploded, perspective view of the product package of **FIG. 1** with a cover assembly exploded from a container base;

[0009] **FIG. 3** is a top view of an alternative product package according to the present invention and utilizing a labeling laminate cover;

[0010] **FIG. 4** is a cross-sectional view of the product package of **FIG. 3** taken along line **4-4**;

[0011] **FIG. 5** is a fragmentary, cross-sectional view of the product package of **FIG. 3** taken along line **5-5**; and

[0012] **FIG. 6** is a fragmentary, exploded, cross-sectional view of the laminate of **FIG. 3**.

BRIEF SUMMARY OF THE INVENTION

[0013] There is, therefore, provided in the practice of the invention a novel labeling cover assembly, which reduces re-labeling by retailers while protecting a packaged product from decay and other damage. The cover assembly includes a bottom film layer and a top film layer positioned over the bottom film layer. A label is positioned between the top and bottom film layers.

[0014] In one embodiment, the bottom film layer is gas permeable, and the top film layer is gas impermeable. Thus, the packaged item is protected during shipment from decay by the top film layer, but during display and after removal of the top film layer, the label is exposed to the consumer. Further, the packaged item is exposed to desirable gases transmitted through the bottom layer to enhance the packaged item's color for display. To further protect the packaged item during shipment by removing any oxygen left after packaging, an oxygen absorber is adhered to the inner side of the top layer and rests on the display layer.

[0015] The labeling cover assembly is used to complete a package according to the present invention. The cover assembly is used to cover and close the open top of a container base containing a packaged item.

[0016] In one embodiment, the container base is made from an insulated material, and the top layer extends beyond the perimeter of the container base, so that the top layer can be easily peeled from the display layer, label, and container.

[0017] The labeling cover assembly according to the present invention is also used in methods for packaging and displaying items. The method includes introduction of a packaged item into the container base, closing the container base with the bottom film layer, positioning a label on the display layer, and placing the protective top film layer over the label and display layer.

[0018] In one embodiment, an oxygen absorber is positioned between the bottom layer and the top layer. For display, the protective layer and oxygen absorber are removed from the package.

[0019] In an alternate embodiment, the container base is closed with a tri-layer laminate, which includes the bottom film layer, label positioned on the bottom film layer, and a top film layer covering the label and bottom film layer. In the method of assembly, the constructed laminate is then used to close the container base.

[0020] In another embodiment, the tri-layer laminate or the cover assembly is closed over an item placed on a plastic substrate. Again, the tri-layer laminate includes the bottom film layer, a label positioned on the bottom film layer, and a top film layer covering the label and bottom film layer. In

the method of assembly, the tri-layer laminate is used to cover and enclose a packaged item positioned on the plastic substrate.

[**0021**] Accordingly, it is as an object of the present invention to provide an improved cover assembly for packaging items.

[**0022**] It is a further object of the present invention to provide an improved laminate for packaging items.

[**0023**] It is still a further object of the present invention to provide improved methods for packaging and displaying items.

DETAILED DESCRIPTION

[**0024**] Referring to the drawings in greater detail, **FIGS. 1 and 2** illustrate a product package **10** assembled according to an embodiment of the present invention. The product package **10** includes a container base **20** and a labeling cover assembly **26**. The cover assembly is attached to the base **20** to seal and protect a perishable item **36** in the package.

[**0025**] The container base **20** is generally rigid and is made from insulating materials, including Styrofoam, Polyethylene, PVC and other formable materials. The container base is generally rigid in that it substantially holds its shape under the application of minimal external forces. In another embodiment, the container base is flexible. The container base **20** has a rectangular shape with a generally flat bottom **11 (FIG. 2)**, a plurality of sidewalls **13**, four sidewalls in one embodiment, extending up from the bottom, and a top perimeter lip **18** extending outwardly from the upper perimeter of the four sidewalls **13**. The four sidewalls **13** extend up from the bottom of the container base **20** at a slight outward angle. The container lip **18** has a depressed outer ridge **16** formed by dropping down the outermost portion of the container lip **18**. The corners of the container lip **18** are rounded and the interior of the container base **20** is hollow for receiving the packaged item **36**.

[**0026**] In one embodiment, as shown in **FIG. 2**, the cover assembly **26** is comprised of a bottom display layer **34**, a label **32**, an oxygen absorber **30**, and a top protective layer **28**. The bottom display layer **34** is a transparent, gas permeable film layer. The display layer is flexible in that it easily deforms under the application of minimal external forces, and it is gas permeable in that it permits the transmission of oxygen. The label **32**, which is adhered to an outer side of the top layer, can include marketing and scale information about the perishable item **36** and can include freshness and pricing details if desired. In one embodiment, the oxygen absorber **30** or oxygen scavenger is adhered to an inner side of the protective layer **28**. The oxygen absorber **30** is a small packet enclosing a material that absorbs oxygen. The protective layer **28** is a transparent, gas impermeable film layer. The protective layer is flexible and is gas impermeable in that it inhibits the transmission of oxygen and microbes. In one embodiment, the protective layer substantially prohibits the transmission of oxygen, and if desired, the protective layer is opaque.

[**0027**] The cover assembly **26** is constructed, as shown in **FIG. 2**, by placing the display layer **34** on the container lip **18**. The label **32** is placed onto the display layer **34** and the oxygen absorber **30** is spaced from the label **32** on the display layer **34**. The top protective layer **28** is positioned over the oxygen absorber **30**, the label **32**, and the display layer **34**. When the top protective layer **28** is positioned over the label and oxygen absorber, it may or may not contact the display layer **34**.

[**0028**] The display layer can be attached to the container lip, the interior face of the sidewalls **13**, or both. The display layer is made of a shrink material that reduces in size when heated and attached to the container base **20**. In one embodiment, the display layer shrinks so that it does not extend to the edge of the container lip **18**. The shrinking process also pulls the display layer taut over the top of the container base **20**. The top layer can be attached to the container either on top of the display layer on the container lip **18** or attached directly to the container lip, without contacting the display layer. In one embodiment, the top layer **28** extends beyond the container lip over at least part of its perimeter. In another embodiment, the top layer **28** extends beyond the container lip **18** around its entire top layer perimeter. The bottom layer is heat sealed onto the container's lip **18**, and the protective layer **28** is attached at the perimeter lip **18** with an adhesive strong enough to keep the protective layer **28** on the package during shipping but weak enough to allow the protective layer **28** to be peeled off the package **10** without removing the display layer **34** or the label **32**. In one embodiment, the display layer and the top layer have space between them that is filled with gas which is atmospheric gas or air in one embodiment. In another embodiment, the gas is an inert preservative gas. The label is attached to the bottom layer, so that it stays attached to the bottom layer when the top layer is removed. In one embodiment, the label is attached with an adhesive. Because the oxygen absorber is adhered to the protective layer **28**, the oxygen absorber **30** will be automatically discarded when the protective layer **28** is removed.

[**0029**] To complete a package **10**, the perishable item **36** is placed inside the container base **20**, and the bottom layer **34** is heat sealed to the lip **18**. The container is then weighed, and the label is printed. The printed label **32** is then attached to the bottom layer **34**, and the top layer, which is slightly longer and wider than the lip **18** is attached to the bottom layer at least at the container's lip **18**. Thus, the container base **20** is closed with the cover assembly **26**, so that the top layer extends slightly beyond the container lip **18** perimeter on all four sides. If desired air is removed from the container base **20** as the display layer is heat sealed, and in one embodiment, a preserving gas or a refrigerant gas is introduced into the base **20**. The oxygen absorber removes any oxygen remaining in the package after the protective layer is adhered to the display layer. Thus, the oxygen absorber provides extra protection from decay for perishable items such as meat including beef and poultry.

[**0030**] The container base **20** and the cover assembly **26** are used in a packaging and display method. A perishable item **36**, beef in one embodiment, is introduced into a container base **20**. The cover assembly **26** is heat sealed onto the container lip **18** while the air around the perishable item **36** inside the container base **20** is evacuated. The container base **20** is back-filled with an inert gas, preferably Nitrogen, as a preservative. The cover assembly is heat sealed to the container lip **18** around the entire perimeter of the container base **20**. In the absence of **02** the beef turns blue.

[**0031**] After the product package **10** is shipped to its intended destination, it is prepared for display. The top

protective layer **28** of the cover assembly **26** is removed by peeling from the rest of the cover assembly **26**, namely the label **32** and the bottom display layer **34**. The oxygen absorber **30** is discarded. The removal of the gas impermeable protective layer **28** and the oxygen absorber **30** allows oxygen to reach the display layer **34**. The display layer **34** permits the newly present oxygen to pass through and enter the space in the container base **20**. The oxygen infuses into the beef, causing the meat tissue to take up the oxygen and change from a bluish color to a more consumer-friendly red color.

[**0032**] When the consumer purchases the packaged meat, and wishes to take the meat out of the package, the remaining portion of the cover assembly **26** is removed by removing the display layer **34** from the container base **20**. The bottom display layer **34** and the label **32** are removed when the consumer peels off the bottom display layer **34**. Thus, the present invention places the label, either a marketing label or a scale label, between the display and protective layers during packaging. The label contains information including weight, price, advertising, promotions, and freshness dates. If desired, other information is added to the label. This innovation eliminates the need for a re-labeling step when the retailer removes the protective layer before displaying the product.

[**0033**] An alternative product package **12** including a substrate layer **38** and a laminate **40** as illustrated in **FIGS. 3 and 4**. The substrate layer **38** can be made from any type of plastic. The laminate as shown in **FIG. 6** comprises a bottom, gas permeable film layer **46**, a middle label layer **44**, and a top, gas impermeable film layer **42**. As in the cover assembly, the label layer **44** is adhered to the bottom film layer **46**. The perimeter of the top film layer **42** is adhered over the label layer **44** to the bottom film layer **46**. The top film layer **42** is adhered strong enough to remain on the bottom film layer **46** during shipping, but weak enough that it can be removed by peeling from the bottom layer **46**. In one embodiment, the oxygen absorber **30 (FIG. 5)** is also positioned between the top and bottom layers, and the absorber **30** is adhered to the top layer **46**.

[**0034**] A method for creating product package **12** includes forming a substrate layer **38** and a laminate **40**. The item **36** is placed in the middle of a rectangular piece of the substrate layer **38**. A piece of laminate **40**, slightly larger than the substrate layer **38** piece, is draped over the item **36** and the substrate layer **38**. The edges of the substrate layer **38** and the laminate **40** are heat sealed together on all four sides, as the air around the item **36** is evacuated.

[**0035**] Once the product package **12** is shipped to its intended destination, the top, gas impermeable layer is peeled off the product package **12**, leaving the middle label layer and the bottom gas permeable layer remaining on the product package **12**. If desired, the laminate is used to form a bag, which is vacuum heat sealed along its open side with product inside. Further, the laminate **40** is used with the container base **20** if desired. When forming the laminate, the packaged items are weighed and the labels printed. The printed labels are then formed into the laminate. The printed labels are then applied to the corresponding item.

[**0036**] Thus, a product package is disclosed which utilizes a multi-layer labeling cover assembly to vacuum seal packages with a label that does not have to be replaced for display purposes. While preferred embodiments and particular applications of this invention have been shown and described, it is apparent to those skilled in the art that many other modifications and applications of this invention are possible without departing from the inventive concepts herein. It is, therefore, to be understood that, within the scope of the appended claims, this invention may be practiced otherwise than as specifically described, and the invention is not to be restricted except in the spirit of the appended claims. Though some of the features of the invention may be claimed in dependency, each feature has merit if used independently.

What is claimed:

1. A labeling cover assembly, comprising:

a bottom film layer,

a label located on top of the bottom film layer, and

a top film layer positioned over the label.

2. The device according to claim 1 wherein the bottom film layer comprises a gas permeable bottom film layer.

3. The device according to claim 1 wherein the top film layer is attached to the bottom film layer.

4. The device according to claim 1 wherein the top film layer comprises a gas impermeable top film layer.

5. The device according to claim 1 wherein the top film layer comprises a top film layer removable by peeling from the bottom layer and label.

6. The device according to claim 1 wherein the label is adhered to the outer side of the bottom film layer.

7. A package comprising:

a container base;

a cover assembly operable to close the container base, the cover base including:

a display layer,

a label placed on top of the display layer, and

a protective layer placed on top of the label.

8. The device according to claim 7 wherein the display layer comprises a gas permeable display layer.

9. The device according to claim 7 wherein the protective layer comprises a gas impermeable protective layer.

10. The device according to claim 7 wherein the protective layer comprises a protective layer removable by peeling from the display layer and label.

11. The device according to claim 7 wherein an oxygen absorber is placed above the display layer and label.

12. The device according to claim 11 wherein the oxygen absorber is adhered to the inner side of the protective layer.

13. A method for packaging items, including:

introducing an item into a container base,

closing the container base with a tri-layer labeling laminate.

14. The method according to claim 13 wherein closing the container base comprises heat sealing the laminate to the top of the container.

15. The method according to claim 13 wherein the tri-layer laminate comprises:

a bottom film layer,

a top film layer; and

a middle label positioned between the top and bottom film layers

16. The method according to claim 13 wherein an inert gas is back filled into the container after the air is evacuated.

17. The method according to claim 13 wherein the tri-layer laminate comprises:

a top layer that is gas impermeable, and

a bottom layer that is gas permeable.

18. A method for packaging items using vacuum sealing, including:

introducing an item into a container base,

closing the container base with a display layer,

positioning a label on the display layer,

placing a protective layer over the label.

19. The method according to claim 18 wherein closing the container base comprises heat sealing the display layer to the top of the container.

20. The method according to claim 18 wherein the display layer comprises a gas permeable display layer.

21. The method according to claim 18 wherein the protective layer comprises a gas impermeable protective layer.

22. The method according to claim 18 further comprising the protective layer for display.

23. The method according to claim 18 wherein positioning the label on the display layer comprises printing the label.

24. The method according to claim 18 further comprising positioning an oxygen absorber between the display layer and the protective layer, and removing the protective layer and the oxygen absorber for display.

25. A multi-layer laminate comprising:

a display layer;

a label positioned on the display layer; and

a protective layer covering the label.

26. The laminate according to claim 25 further comprising an oxygen absorber positioned between the display layer and the protective layer.

27. A package comprising:

a container base having a bottom, a plurality of side walls, and a perimeter;

a cover assembly operable to close the container base, the cover assembly including:

a gas permeable display layer,

a label positioned on top of the display layer,

an oxygen absorber positioned on the display layer, and

a gas impermeable protective layer adhered to the outer side of the display layer around the perimeter of the container base, and wherein the protective layer is removable by peeling from the display layer and label.

28. A method for packaging items using vacuum sealing, including:

closing the container base with a gas permeable display layer by heat sealing,

printing a label,

placing the label on the display layer,

placing an oxygen absorber on the display layer next to the label,

placing a gas impermeable protective layer over the label and oxygen absorber,

removing the protective layer by peeling for display, and

removing the oxygen absorber for display.

* * * * *