Aug. 18, 1964 R. L. BOEGERSHAUSEN 3,145,112

FOOD PACKAGE

Filed Sept. 9, 1958 3 Sheets-Sheet 1

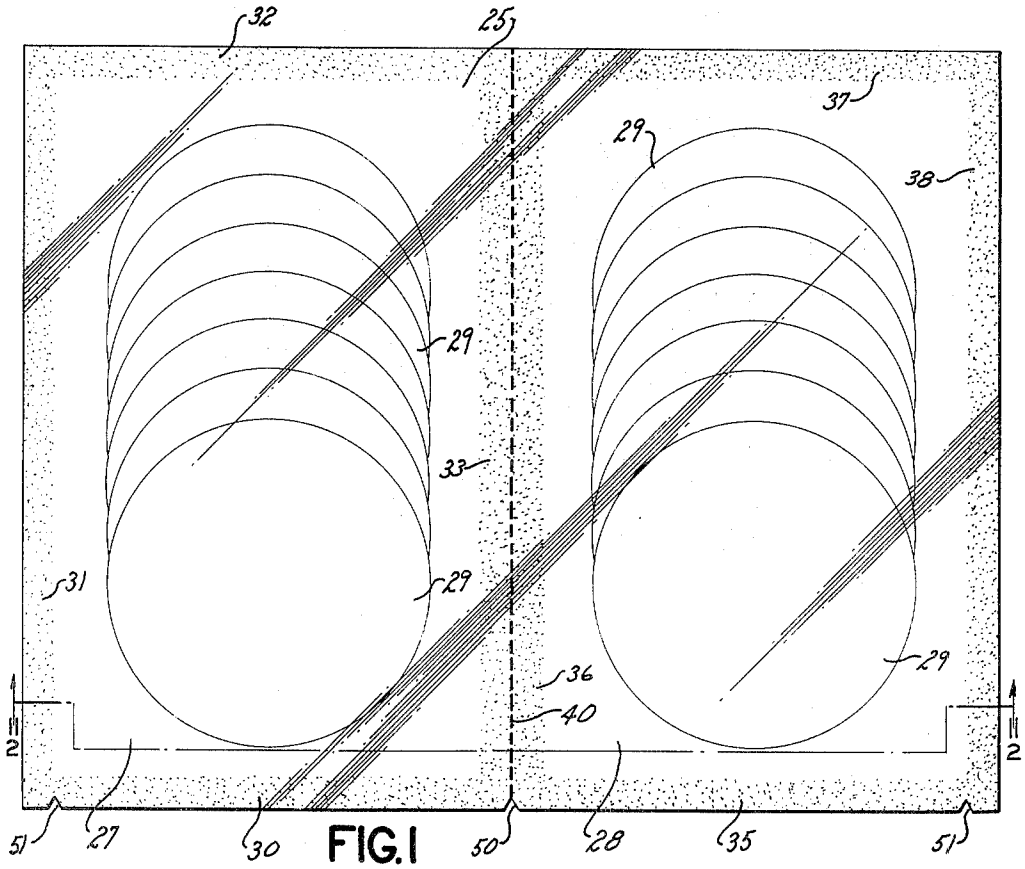

FIG. 1

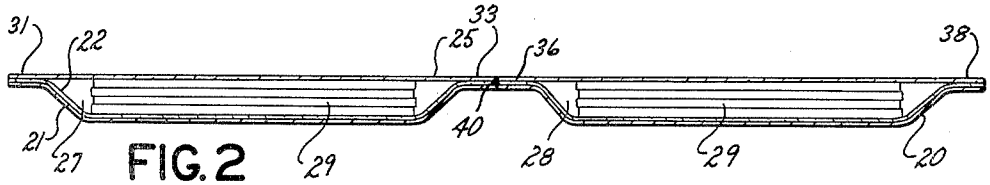

FIG. 2

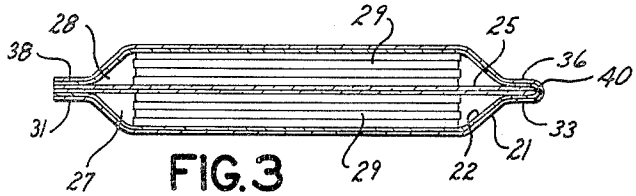

FIG. 3

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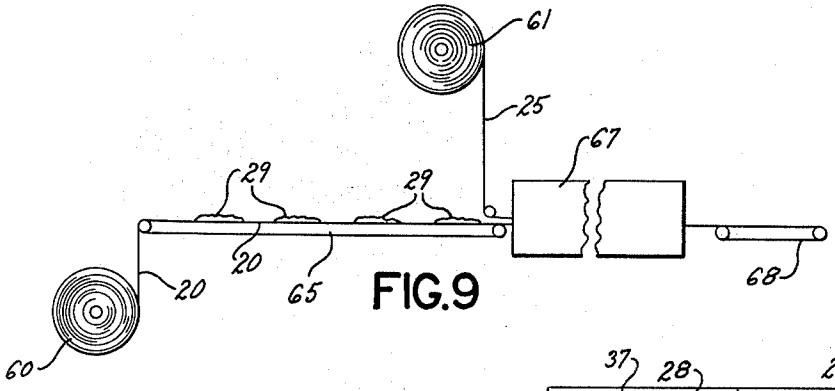

FIG.9

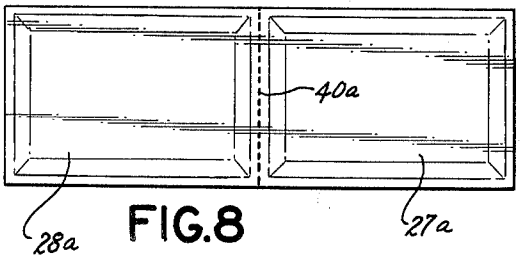

FIG.8

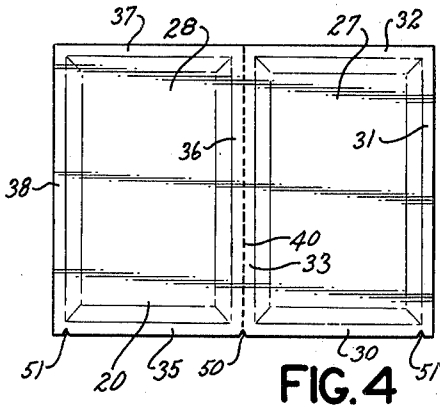

FIG.4

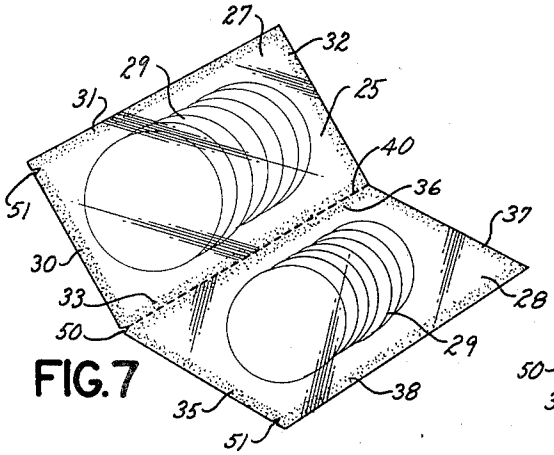

FIG.7

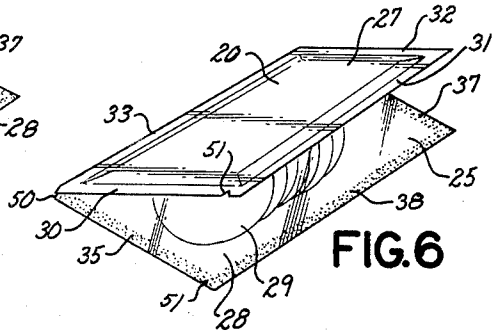

FIG.6

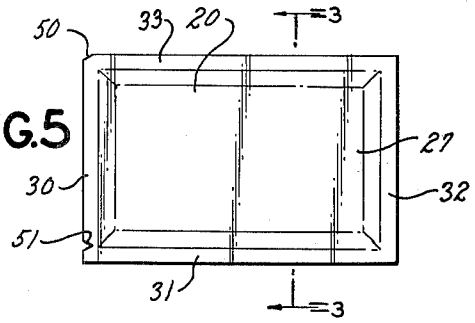

FIG.5

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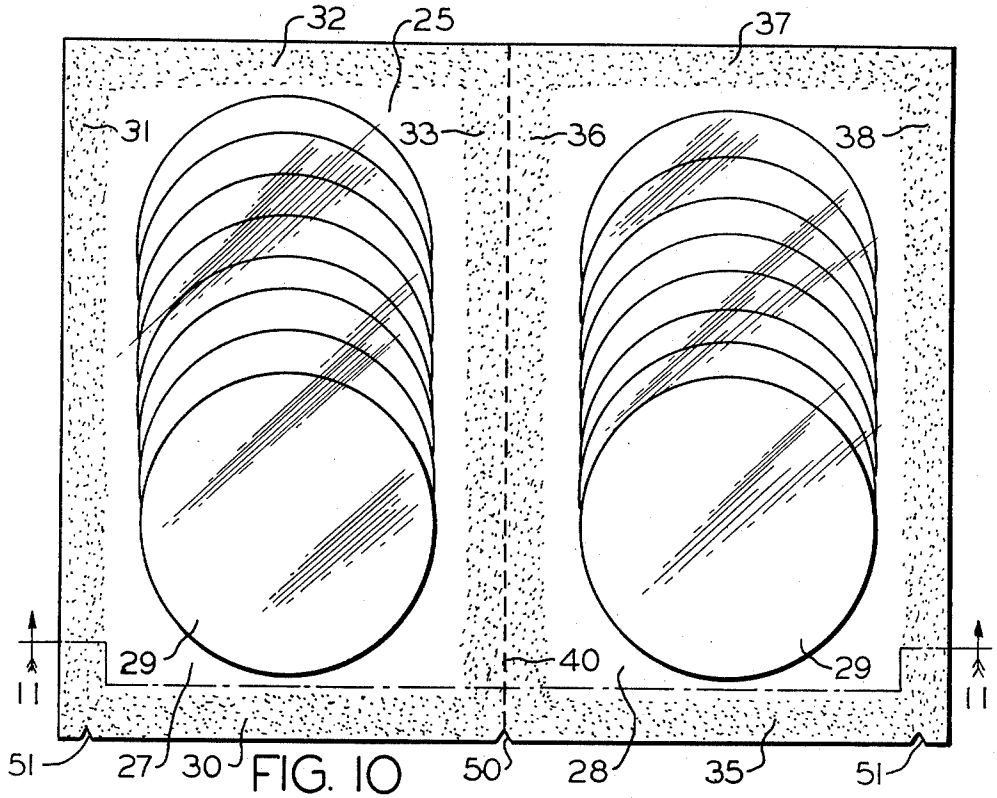

FIG. 10

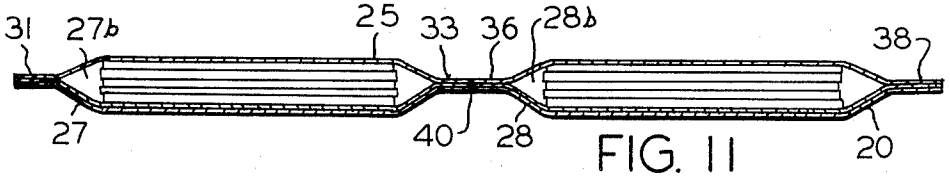

FIG. 11

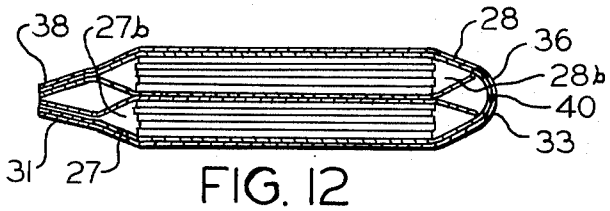

FIG. 12

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United States Patent Office 3,145,112 Patented Aug. 18, 1964

3,145,112

FOOD PACKAGE

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Filed Sept. 9, 1958, Ser. No. 760,288
7 Claims. (Cl. 99—171)

This invention relates to the packaging of produce for attractive display in a novel and efficient manner.

This application is a continuation-in-part of my copending application Serial No. 748,762, filed July 15, 1958, for Packaging of Produce or the Like, which is now abandoned.

Certain produce, such as meats, cheese, and the like, vary in quality and attractiveness, and customers are very selective in their purchases of such produce. In the case of packaged goods, the customers prefer to inspect the actual produce within the packages. It has been customary to package such produce in transparent containers, which are then placed in refrigerated display cases.

Such packages permit light rays to penetrate their transparent walls or windows, and in time these rays are harmful to the produce. Some packages are generally handled rather roughly by the customers, and the transparent film on the outer walls of such packages often is broken, so the produce becomes contaminated by contact with the air or person. Hence, produce so displayed is likely to be harmed.

Packages have been proposed which are adapted to receive sliced meats, cheese and other produce in uncovered condition on one-half of an opaque foldable wrapper. The other half of the wrapper is folded over the produce for the purpose of protecting the produce. Such a wrapper cannot be opened without exposing the produce to contamination from the air and from handling by the customer. To overcome, in part, this objection, a transparent window has been added on the outer cover of the wrapper, so the produce can be viewed through the window without opening the wrapper. However, such a window permits light rays to penetrate and spoil the produce. Also, the window is easily broken, since it continuously is exposed on the outside of the package.

Other packages have been proposed in which separate pie pans or the like are covered with transparent film. These packags likewise permit the light to harm the produce. The film is continuously exposed to breakage since it forms part of the outside surface of the package.

Other packages have been proposed in which separate rectangular pans of aluminum, or the like, are covered and sealed with film of any desired nature. If the film is opaque, such as aluminum, the customer cannot inspect the contents, and if it is a transparent film, then the light rays can harm the contents, and the film may be easily broken, since it continuously is exposed as a part of the outside of the package.

Other packages have been proposed in which pairs of pockets are joined together by a rigid joining member and the pockets are covered by aluminum foil. The side rims of the packages are so disposed with respect to the joining member that the pockets cannot be folded upon each other.

Another package has been proposed in which a series of strips of foil or transparent film are joined by perforations. Bacon is placed on the individual strips and they are then rolled into a complete roll. The bacon is not hermetically sealed, is uncovered when unrolled, and is very unsanitary when on display.

Another package has two series of bacon slices placed outwardly against a central reinforcing sheet, and then they are covered by a wrap sheet of transparent material which permits damage by light and is likely to be broken while on display.

Another package includes slices of bacon between two sheets of aluminum foil which are pressed together at their edges and through which an opening is provided along the edges. This is an unsanitary package and does not permit inspection of the produce.

According to this invention, on the other hand, a foldable package is provided which has two shallow inwardly directed opaque pockets hinged to each other at portions of their rims, and in which the produce is stored. The pockets and produce are covered and sealed with a transparent film which prevents contact of outside air with the contents of the package. If desired, the transparent film also may have pockets or bulges to cooperate with the opaque pockets. The opaque pockets are folded together with their transparent film covers toward each other and with the opaque pocket walls on the outside. One or both of these opaque pockets may be attractively illustrated and colored on the outside to catch the customer's attention, and to indicate the nature of the produce. The customer may temporarily open the package to view the produce through the transparent film, after which the package may be closed and folded again to its original condition. In this manner, the produce is protected against harm from direct light rays and from contamination by contact of air or person. At the same time, the package displays the produce in an attractive and efficient manner.

Accordingly, it is an object of this invention to provide a package for preserving and displaying comestible produce, especially bacon, or the like which protects the produce from the the harmful effects of light and from contamination by air or the handling of the package by the customer, while the package easily and attractively displays the produce.

Another object of this invention is to provide a package according to the foregoing object which is adapted for packaging efficiently either by relatively simple hand operated tools or equally as well by high speed automatic machinery.

Another object of this invention is to provide a novel method of manufacture and packaging produce in a display package so the produce is attractively displayed yet is protected from contamination by light, or by handling of the package.

Further objects of this invention will become apparent as the description proceeds with reference to the accompanying drawings in which:

FIGURE 1 is a top plan view of one embodiment of my improved package in open position.

FIGURE 2 is a cross-section taken along the line 2—2 of FIGURE 1.

FIGURE 3 is a cross-section of the package shown in FIGURE 2, but in folded position, FIGURE 3 being also an enlarged cross-section taken along the line 3—3 of FIGURE 5.

FIGURE 4 is a bottom view, on reduced scale, of packages as shown in FIGURES 1, 2, 10 and 11.

FIGURE 5 is a view on the scale of FIGURE 4, and showing a representative package in closed position.

FIGURE 6 is a view substantially on the scale of FIGURE 5 and showing a package in perspective and slightly open for inspection or use.

FIGURE 7 is a view similar to FIGURE 6, but showing a package in a more open position.

FIGURE 8 is a view somewhat similar to FIGURE 4, and showing another embodiment of this invention.

FIGURE 9 is a diagrammatic representation of one form of apparatus for practicing the method, and producing packages according to this invention.

FIGURE 10 is a view similar to FIGURE 1 showing another embodiment of the invention.

FIGURE 11 is a cross-section along the line 11—11 of FIGURE 10.

FIGURE 12 is a view similar to FIGURE 3, but showing the embodiment of FIGURES 10 and 11.

Packages according to this invention preferably are made from light and air impervious sheet metal 20, FIGURES 2, 9 and 11. For example, the sheet 20 may be a laminated foil sheet, including an outer aluminum foil 21, FIGURES 2 and 11, of a thickness, for example, of .00035 inch mounted on a 20 pound wet strength tissue paper 22 with a one mil polyethylene film on the upper side of the paper 22 as viewed in FIGURES 2 and 11. A transparent film material 25, FIGURES 2, 9 and 11, impervious to the transmission of air, may be a clear polymer film, known as cellophane, for example of 450 gauge, and coated with a one mil polyethylene film on the underside of film 25, as viewed in FIGURES 2 and 11. The sheet 20 (21 and 22) is formed into a pair of adjacent shallow rectangular pockets 27 and 28 for the reception of portions 29 of the produce. This produce may be comestible, such as sliced chunk or breakfast ham, bacon, cheese, etc., or any other produce.

The pockets 27 and 28, with the portions 29 of the produce in them, are covered and sealed by the transparent film 25.

The pocket 27, if rectangular, is surrounded by rectangularly disposed rims 30, 31, 32, 33. The pocket 28, if rectangular, is surrounded by rectangularly disposed rims 35 and 38 inclusive. Preferably, the rims 31 to 33 and 35 to 38 extend outwardly when the package is fully opened, as in FIGURES 1, 2, 10 and 11. The rims 33 and 36 are adjacent and joined to each other, and are held together by the perforated seam 40 in the sheet 21, 22 and film 25, to form a bendable and severable web or hinge.

The transparent film 25 is secured and sealed to the rims 30 to 33 and 35 to 38 and has bridging portions closing the pockets 27 and 28 and covering the portions 29 of the produce. The film 25 may be secured to the film 20 (21 and 22) by heating the rims 30 to 33 and 35 to 38 in any well-known manner to cause the polyethylene film of each layer to adhere and seal the films 20 and 25 together at the rims as indicated by dotted shading in FIGURES 1 and 10. This hermetically seals the produce 29 within the pockets 27 and 28, yet permits inspection of such produce when the package is partly or fully opened as shown in FIGURES 1, 2, 6, 7, 8, 10 and 11.

The bridging portions of the film 25 which close the pockets 27 and 28 may be substantially in a single plane, as shown in FIGURES 2 and 3, or may form bulges or pockets 27*b* and 28*b* directly opposite the pockets 27 and 28 (or opposite the pockets 27*a* and 28*a*), respectively, as shown in FIGURES 11 and 12.

After the film 25 has been sealed to the rims of the pockets 27 and 28, the pockets 27 and 28 are folded against each other by bending the web or hinge formed by the rims 33 and 36 along the perforated seam 40 to place the two covering or bridging portions of the transparent film 25 against each other, as shown in FIGURES 3 and 12.

When the package is fully folded, as shown in FIGURES 3, 5 and 12, the pockets 27 and 28 are effectively surrounded by the light and air impervious sheet 21, 22 and no harmful direct rays of light can pass through these sheets into the package. The pocket 28, and the aluminum foil lamination forming such pocket 28, liftably cover the pocket 27, and vice versa, for inspection of the merchandise without contamination of the merchandise by light and air.

The relatively strong character of the sheet 21, 22 permits unusually rough handling of the package when so folded. The outer surface of the sheet 21, 22 at either pocket 27 or 28, or both pockets, may be attractively printed and/or colored to attract the attention of the customer, and, if desired, also to inform the user or customer of the nature of the produce inside the package. The brand name or other identification of the packer may also be attractively placed on the outside of the package.

If the customer so desires, he may open the package in a partial manner, as shown in FIGURES 6 or 7, or in a fully open position, as shown in FIGURES 1, 2, 4, 8, 10 and 11. The customer may then fully inspect the appearance of the produce, since it is visible through the film 25. The customer may then refold the package to the position shown in FIGURES 3, 5 and 12 for transportation home, or to be returned for safe-keeping in the display case at the store. In either instance, the produce is once again thoroughly protected against direct light rays or any other contaminations which are likely to occur in previous packages.

In use by the customer, one or the other pocket 27 or 28 ordinarily is opened by a tearing action, and the produce in such pocket may be completely used before the other pocket is opened. If desired, the selected pocket 27 or 28 is severed from the other pocket by tearing along the perforations of seam 40 in the sheet 21, 22 and film 25. For this purpose, a notch 50 is made in the package to initiate and guide the tearing operation. To aid in opening either pocket 27 or 28 along the outer rims 31 and 38, notches 51 are provided.

Merely by way of example, the folded package shown in FIGURES 3, 5 and 12, may be approximately 5½" in width and 8" long.

In another embodiment, shown in FIGURE 8, the pockets 27*a* and 28*a* may be joined together at their ends, as indicated by the perforated connection or seam 40*a* similar to the connection or seam 40. Aside from this difference, the pockets 27*a* and 28*a* may be substantially the same in construction and operation as pockets 27 and 28 heretofore described, the produce and covering operation, etc. being substantially the same, as is obvious. In all the embodiments of FIGURES 1 through 7, 10 through 12, and in FIGURE 8, the longitudinal cross-section of each pocket 27, 28, 27*a* or 28*a* is substantially the same as the transverse cross-sections shown in FIGURES 2, 3, 11 and 12, except that the length of the longitudinal cross-section will be longer than the length of the transverse cross-section, as is apparent. Likewise, if the embodiment of FIGURE 8 is modified by including bulges 27*b* and 28*b* in the transparent film 25, the longitudinal cross-section is the same as the transverse cross-section, except for the length thereof, as is apparent.

As will be apparent to those skilled in the art, the packages disclosed in FIGURES 1 through 8 and 10 through 12 are susceptible of manufacture and packaging either by simple hand operated tools, requiring a relatively small capital outlay, or they may be produced in relatively high-speed automatic machinery which is now available on the market, and which may be adjusted by the manufacturer to carry out the method and produce the packages of this invention.

If hand operated machinery, or individual machines are used, the pockets 27 and 28, or 27*a* and 28*a* of the sheet 20 and the pockets 27*b* of the film 25 may be produced in individual presses. Thereafter, the produce 29 may be placed in the pockets 27, 28 or 27*a*, 28*a* and then the film 25 may be placed over the pockets and produce, and may be secured thereto by heating plates or any other heating tools which are well known in the art to heat and seal the rims 30–33 and 35–38.

In the embodiment shown in FIGURES 10 through 12, the rims 33 and 36 are sufficiently wide to permit the longer bend shown in FIGURE 11. The rims 30, 31, 32, 35, 37 and 38 inherently or purposely are given a slightly bowed cross-section during the heating or folding operation so the respective outer edges thereof substantially touch or are sufficiently close to each other to prevent infiltration of direct rays of light along such edges.

FIGURE 9 indicates diagrammatically a relatively high-speed automatic installation. The film 20 is fed from the roll 60 and the film 25 from the roll 61. The sheet 20 is

carried and supported by the conveyor 65, and enters the automatic machine 67. Properly spaced and measured portions 29 of the produce are placed on the sheet 20, as it proceeds along the conveyor 65. These portions may be either manually or automatically placed thereon, as is well-known. The automatic machine indicated diagrammatically at 67, which is now on the market, can be, and has been, easily adjusted by the manufacturer so the pockets 27 and 28 are formed with the produce 29 in them, after which the film 25 is pressed against the rims 30 to 33 and 35 to 38 and then heated and secured thereto. Thereafter, the sheets 20 and 25 are cut along one set of alternate webs formed by rims 31 and 38 of adjacent pockets to produce the several rims 31 and 38, FIGURES 1 and 10. The sheets 20 and 25 are perforated at 40 along another set of alternate webs formed by rims 33 and 36 to produce the bendable and severable webs including such rims 33 and 36 and with the perforated seam 40. Thereafter, the machine 67 discharges the packages in the form shown in FIGURES 1 and 2 or 10 and 11 onto the conveyor 68 from which such packages may be removed and folded by hand or by machine, as is obvious to those skilled in the art, to produce the packages in the folded form shown in FIGURES 3, 5 and 12. The installation shown in FIGURE 9 also may be used to produce the embodiment shown in FIGURE 8, as is obvious.

The machine 67, now on the market, may include gas charging features to charge the pockets of the package with a preserving gas, in lieu of air. For example, such a machine may flush the air out of the pockets of the package and introduce nitrogen, so that practically no oxygen will be present in the pockets 27, 28, 27*a*, 28*a*, 27*b* and 28*b*. For example, the oxygen may be reduced not to exceed 1% within the pockets of the package.

The embodiment shown in FIGURE 8 is particularly useful when it is desired to purchase a less expensive machine 67. The package of FIGURE 8 is fed lengthwise to such a machine, which thus reduces the necessary width of the machine 67 to accept a 5½ inch dimension, since by way of example, the open package shown in FIGURE 8 may be 5½ inches wide and 16 inches long, which when folded, will be approximately 5½ inches wide and 8 inches long. A machine 67 to produce the package of FIGURES 1 through 7 and 10 through 12 is wider to accept the 8 inch dimension previously suggested.

A novel and superior package and method of producing the same are thus provided, which package prevents harmful deterioration of its contents while such package is in storage or on display. It also is easily opened for inspection and easily refolded again to protect the contents.

While the form of the invention now preferred has been disclosed, other forms may be used, all coming within the scope of the claims, which follow.

What is claimed is:

1. A package comprising a pair of substantially similar pockets, each formed of light and air impervious sheet materials, each containing a food product that is sensitive to light and air and each of said pockets being surrounded by a respective rim structure, transparent film secured and sealed to the respective rim structure of each of said pockets and having bridging portions closing said pockets and covering said food products, said pockets being placed against each other with said bridging portions of transparent film facing each other, said pockets being substantially surrounded by said light and air impervious material, and a hinge securing a portion of the rim structure of one pocket to a portion of the rim structure of the other pocket.

2. A package according to claim 1 in which said bridging portions bulge outwardly from the respective pockets which they cover.

3. A package according to claim 1 in which said pockets are charged with a preserving gas in the space between said impervious sheet material and said transparent film.

4. A package comprising a light and air impervious sheet of aluminum foil lamination formed into a pocket, said sheet forming a pocket rim structure surrounding said pocket, food product disposed in said pocket, said food product being sensitive to light and air, a light and air impervious sheet of aluminum foil lamination formed into a cover means over said pocket and having a rim structure over said pocket rim structure, an air impervious transparent film sealed to said pocket rim structure over said food product in said pocket, said cover means being liftably secured over said pocket and over said film for inspection of said pocket without contamination of the interior of the pocket by light and air.

5. A package comprising a light and air impervious sheet formed into a pair of adjacent pockets each being surrounded by a rim structure, a portion of said rim structure of one pocket being joined to another portion of said rim structure from the other pocket in a manner to form a bendable web, food products disposed in said pockets, said food products being sensitive to light and air, and transparent film secured to said rim structure and having bridging portions closing said food products in said pockets, said pockets being folded against each other by the bending of said web to place said bridging portions of transparent film and said pockets against each other, said pockets being substantially surrounded by said light and air impervious sheet when so folded.

6. A package comprising a light and air impervious sheet formed into a pair of adjacent rectangular pockets each being surrounded by rectangularly disposed rims, one rim of one pocket being joined to a rim of the other pocket in a manner to form a bendable web, food products disposed in said pockets, said food products being sensitive to light and air, and transparent film secured and sealed to said rim and having bridging portions enclosing said food products in said pockets, said pockets being folded against each other by the bending of said web to place said bridging portions of transparent film and said pockets against each other, said pockets being substantially surrounded by said light and air impervious sheet when so folded.

7. A package comprising a light and air impervious sheet formed into a pair of adjacent rectangular pockets each being surrounded by rectangularly disposed rims, one rim of one pocket being joined to a rim of the other pocket by a perforated seam in a manner to form a bendable and severable web, food products disposed in said pockets, said food products being sensitive to light and air, and transparent film secured and sealed to said rims and having bridging portions closing said food products in said pockets, said pockets being folded against each other by the bending of said web along said perforated seam to place said bridging portions of transparent film and said pockets against each other, said pockets being substantially surrounded by said light and air impervious sheet when so folded.

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