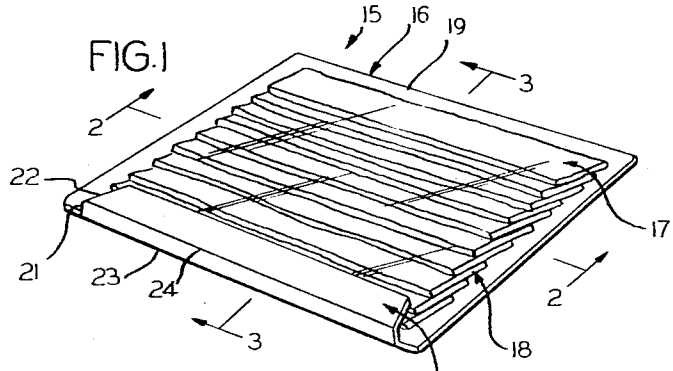
Sept. 26, 1967 A. R. NUGARUS 3,343,661

REUSABLE PACKAGE

Filed June 14, 1965

FIG.1



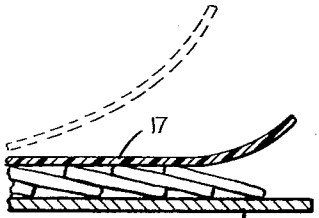


FIG.4

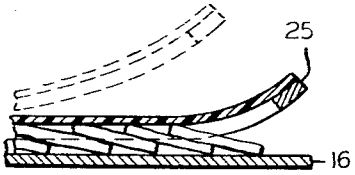


FIG.8

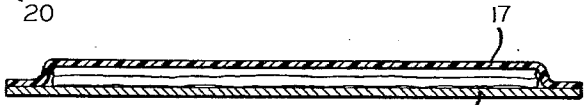


FIG.2

FIG.3

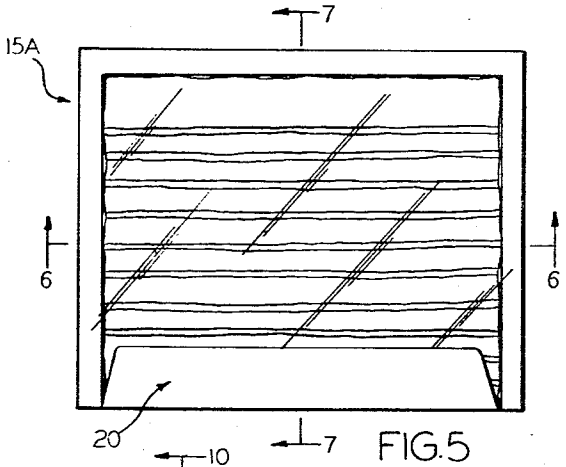


FIG.5

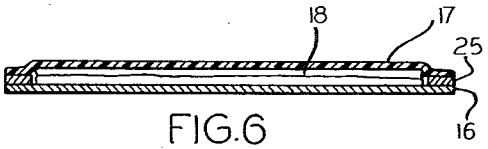


FIG.6

FIG.7

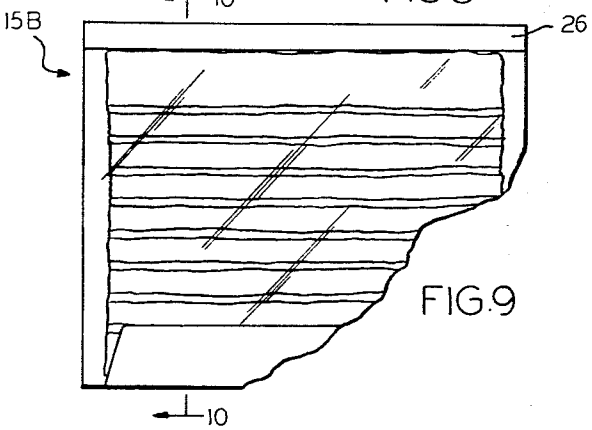


FIG.9

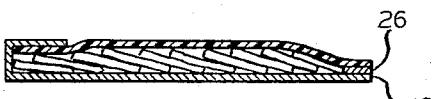


FIG.10

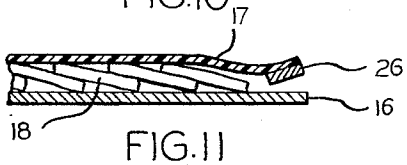


FIG.11

INVENTOR.
ANTHONY R. NUGARUS

BY

Marzall, Johnston, Cook & Root

ATTORNEYS

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REUSABLE PACKAGE

Anthony R. Nugarus, Chicago, Ill., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

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ABSTRACT OF THE DISCLOSURE

Reusable package including a substantially stiff tray upon which a product is placed and then sealed thereto by a cover of "hot melt" material that can be thereafter stripped and hinged to the tray.

This invention relates in general to packaging, and more particularly to a package especially useful for packaging a product of relatively slight thickness, and still more particularly to a package that can be made efficiently and can be employed for reuse by the ultimate consumer.

The package of the present invention, while applicable primarily for a relatively thin or of slight height product, may be employed otherwise as will be apparent to one skilled in the art. One such example of use for the present invention is to package meat products such as a stack of meat slices or a single sliced section of meat having relatively little thickness. Bacon arranged in the usual stacked relation can be easily and efficiently packaged by the present invention. More particularly, the package of the present invention includes a tray of relatively stiff material, such as paperboard or cardboard, and having a flat body portion upon which the product is placed. The product is sized with the tray so that the edges terminate inwardly from the edges of the tray, and thereafter a sheet of material is essentially laid over the product and sealed to the edges of the tray. In the present invention, this sheet of material is formed by applying a layer of predetermined thickness of a "hot melt" material, which is applied in liquid form at a predetermined elevated temperature and which thereafter congeals, hardens or solidifies when reaching a predetermined lower temperature or room temperature. Such a material may be applied at a temperature of between 250–400° F., and it would congeal at a temperature lower than 100° F. The material would also be transparent so that the product could be easily viewed especially if it were placed on display at a meat counter. Finally, a flap would be employed that extends from one edge of the tray and which would be formed over one end of the covering material and would adhere thereto. Thereafter, the ultimate consumer could separate the material from the edges of the tray and lift it off the product whereby the flap would act as a hinge for the material. With the covering material in the open position, some or any part of the product may be removed therefrom, and if only a part is removed, the covering material could be replaced onto the tray and thereby permit the package to be reused and to serve as a means for storing the product until it is completely used. In order to facilitate the separation of the covering material from the tray, strips of material like the tray may be arranged and suitably sealed to the tray about the edges thereof and upon which would be sealed or secured the covering material. Thereafter, these strips could be separated from the tray and could be employed as a frame or skeleton for lifting the covering material from the product for access into the package.

Accordingly, it is an object of the present invention to provide a new and improved package, and more particularly to provide a reusable package for relatively thin products.

Another object of this invention is in the provision of a reusable package that may be economically and efficiently constructed, and which will serve to display the product and to permit the ultimate consumer to sequentially use any part of the product while maintaining the package usable for further storage of the product.

Still another object of this invention is to provide a reusable package especially useful for packaging of relatively thin products such as meat or the like, wherein the package includes a tray of relatively stiff material, a covering material that is applied in liquid form and at elevated temperatures and which hardens at lower temperatures, and a flap that is integral with the tray and which coacts with the covering material to serve as a hinge between the covering material and the portion of the tray upon which the product is supported.

Other objects, features and advantages of the invention will be apparent from the following detailed disclosure, taken in conjunction with the accompanying sheet of drawings, wherein like reference numerals refer to like parts, in which:

FIG. 1 is a perspective view of the package according to the present invention;

FIG. 2 is a transverse sectional view taken substantially along line 2—2 of FIG. 1;

FIG. 3 is a sectional view taken substantially along line 3—3 of FIG. 1;

FIG. 4 is a fragmentary and sectional view illustrating the opening of the package with the separation of the covering layer from the tray shown in solid lines and the more completely open position of the covering material shown in dotted lines;

FIG. 5 is a top plan view of a modification of the invention;

FIG. 6 is a transverse sectional view taken substantially along lines 6—6 of FIG. 5;

FIG. 7 is a sectional view taken substantially along line 7—7 of FIG. 5;

FIG. 8 is a fragmentary sectional view illustrating the opening of the covering layer of the embodiment of FIG. 5;

FIG. 9 is a fragmentary top plan view of a further embodiment of the invention;

FIG. 10 is a transverse sectional view taken substantially along line 10—10 of FIG. 9; and

FIG. 11 is an enlarged sectional view, partially fragmentary, similar to FIG. 10 but illustrating the opening of the covering layer relative to the tray.

Referring now to the drawings and particularly to the embodiment of FIGS. 1–4, the package of the present invention is generally designated by the numeral 15 and includes generally a tray 16 and a layer or sheet of covering material 17 for packaging of a stack of meat slices 18. The meat slices 18 are intended to represent bacon slices, wherein the stack defines a relatively thin product or one that has a slight height. While the present invention is illustrated in connection with packaging of bacon in this application, it should be appreciated that other meat products and/or other products may be readily packaged by a package of the present invention.

The tray or blank 16 includes a relatively flat body portion 19 and a flap 20 hinged to one end or side of the flat portion. While the flat body portion 19 is illustrated as being rectangular in shape, it should be appreciated that it could assume any other suitable shape depending upon the particular product to be packaged. The flap 20 includes an elongated section 21 connected along one

edge to an edge of the body portion **19**, and an elongated portion **22** connected along the portion **21** and extending over the covering material **17**. Thus, the flap **20** is essentially creased at **23** and **24** so that room is provided for receiving between the portion **22** and the body portion **19** one end of the thin product **18**. Further, the creases enable easier folding of the flap into proper position.

The covering sheet or layer **17** may be of any suitable material, known in the industry as a "hot melt," wherein the material is molten and liquid at predetermined elevated temperatures and solid or hard at predetermined lower or normal rom temperatures. More particularly, it is preferable to employ a material having good strength and which may be stripped from the product when desired. Normally, a material may be heated to a temperature of between 250 and 400° F. to enable it to be in such molten state as to be applicable over a product and wherein it would essentially conform to the shape of the product, and wherein the material would congeal or harden at a predetermined lower temperature or one somewhat lower than 100° F. Further, it is preferable that the material be essentially transparent so that the product can be seen and thereby render the package as one which will enable the product to be easily and advantageously displayed. For example, if the product is a meat, it is desirable to display same at a meat counter. Further, the covering material, which would be coatingly applied over the product, should be such that it will when hardening somewhat attach itself to the edges of the tray and thereby seal the product to the tray. Further, when the flap is positioned over the covering material, it will adhere to the covering material before the material becomes hard.

The covering material **17** may be applied in any suitable fashion such as by nozzle, roller, dipping or the like. Preferably, the covering material would be applied by nozzle and efficiently applied to a desired thickness. In such an instance, the tray would be advanced along with the product thereon through a coating zone, wherein the discharge from a nozzle of the coating material would seal the product to the tray, and thereafter the flap would be plowed over the material prior to hardening thereof so that the flap would essentially seal to the material.

Referring now particularly to FIG. 4, it may be appreciated that the covering material **17** may be separated from the tray along the edges adjacent the peripheral edges of the product on three sides thereof and thereafter lifted from the tray with the flap **20** to permit access into the package and then subsequent removal of a part or all of the product from the tray. Thus, the flap **20** would function to permit raising of the covering material **17** and relocating same after using a portion of the product so that the remaining product may be again stored in a suitable place.

The embodiment of FIGS. 5, 6, 7 and 8 differs from the embodiment of FIGS. 1–4 in that a substantially U-shaped strip **25** is applied to the tray **16** along the edges of the product to facilitate opening of the package. In this embodiment, the U-shaped strip **25** extends about the three sides of the product that are open away from the flap **20**. This strip is preferably constructed of the same relatively stiff material as the tray **16**, although it may be constructed of any other desirable material. Any suitable adhesive means is employed to provide adherence between the tray **16** and the strip **25**. For example, a wax may be employed which would cause the strip **25** to adhere to the tray but also permit separation therebetween at a later time. The covering layer or sheet **17** is then applied over the product **18** and arranged in engagement with the U-shaped strip, except on the side that runs along the flap **20**. It should be appreciated that a complete and closed strip may be employed wherein it would also run along the side adjacent to the flap **20**. Again, the flap **20** would be plowed over onto the covering material **17** prior to the complete hardening thereof to attach the flap **20** to the covering material.

In operation, to obtain access within the package **15A**, it is then necessary to separate the strip **25** from the tray **16**, as shown in FIG. 8, to open the package for removal of the product therefrom.

Referring now to the embodiment of FIGS. 9, 10 and 11, a further modification is illustrated with the package **15B**, wherein it essentially differs from the package **15A** in that a strip **26** is provided extending only along the edge of the tray opposed to the edge having the flap **20** hinged thereto. In this embodiment, the covering layer **17** would attach to the upper face of the strip **26** and otherwise along the edges of the tray **16** outside of the terminal product ends. In operation, when it is desired to obtain access into the package **15B**, the strip **26**, which would be secured to the tray **16** in the same manner as the strip **25** is secured to the tray **16** in the embodiment of FIGS. 5–8, is separated from the tray **16** and then the opposite edges of the covering material **17** are separated from the tray **16** along the opposite edges of the product **18**.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention, but it is understood that this application is to be limited only by the scope of the appended claims.

The invention is hereby claimed as follows:

1. A reusable package comprising a product, a tray of relatively stiff impervious material including a flat and rectangular body portion upon which the product is supported with the edges of the product terminating inwardly from the edges of the tray, a flap hingedly and integrally connected along one edge of the tray body portion, a strip of relatively stiff material separably attached to said body portion along the edge thereof opposite the flap, and a layer of relatively transparent impervious material over said product and in sealing relation with the tray body portion and strip along the edges of the product to completely enclose the product, the layer extending under said flap which is in adhering relation thereto, said material being of a type that is applicable in liquid form at elevated temperatures and hardens at lower temperatures after taking the shape of the product and is easily strippable from the product and body portion.

2. A reusable package comprising a product, a tray of relatively stiff impervious material including a flat and rectangular body portion upon which the product is supported with the edges of the product terminating inwardly from the edges of the tray, a flap hingedly and integrally connected along one edge of the tray body portion, a U-shaped strip of relatively stiff material separably attached to said body portion along the other edges thereof, and a layer of relatively transparent impervious material over said product and in sealing relation with the tray body portion and strip along the edges of the product to completely enclose the product, the layer extending under said flap which is in adhering relation thereto, said material being of a type that is applicable in liquid form at elevated temperatures and hardens at lower temperatures after taking the shape of the product and is easily strippable from the product and body portion.

3. A method of making a package for containing a relatively thin product comprising the steps of placing an impervious paperboard tray having a flap hingedly connected to one edge thereof on a horizontal surface, positioning the product on the tray so that the peripheral edges of the product terminate slightly inwardly of the peripheral edges of the tray, applying a coating of material at elevated temperatures in liquid form over the product and the edges of said tray to completely enclose the product, positioning the flap over one end of the product and in engagement with said material, and subjecting the coating material to a lower temperature than

that when it was applied to harden same and provide a sealed package.

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THERON E. CONDON, *Primary Examiner.*

MARTHA L. RICE, *Examiner.*