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METHOD OF PACKAGING MEAT

Filed March 25, 1959

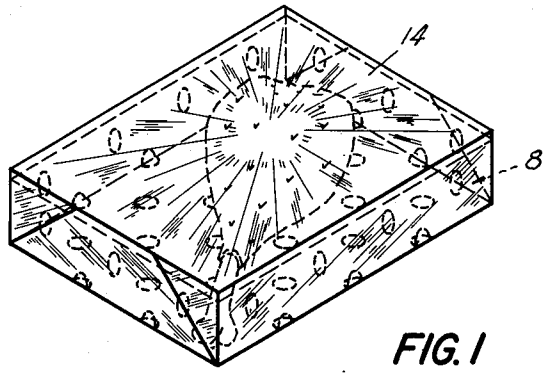

FIG. 1

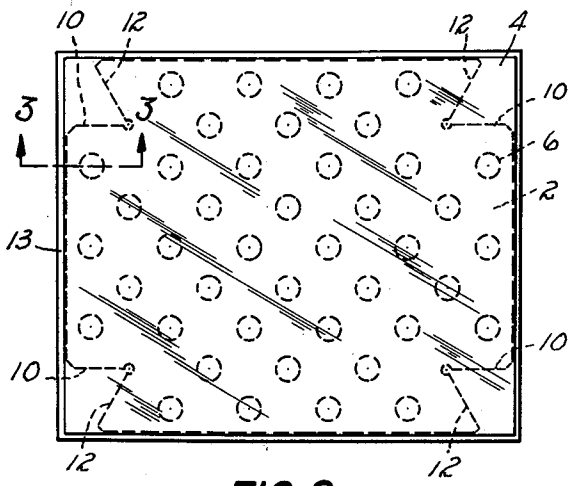

FIG. 2

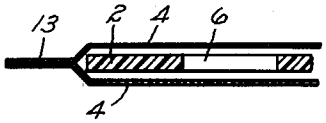

FIG. 3

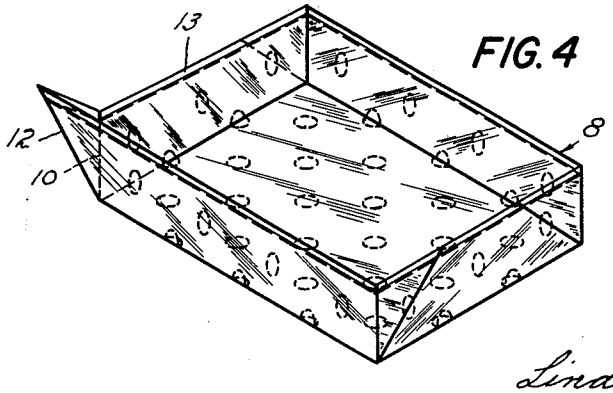

FIG. 4

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METHOD OF PACKAGING MEAT

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This invention relates to plastic packages, and more particularly to a novel plastic tray for packaging meats, poultry, fish, and the like.

In the packaging industry, the use of plastic containers has become wide-spread because of the appeal which transparent enclosures have to the consumer. Such packages enable the shopper to inspect the product, and oftentimes a pleasingly displayed item will engender a desire to purchase.

Conventional plastic packaging films alone have not been suitable in the meat packaging industry because a substantially rigid base or tray for the package is generally necessary. Thus, the meat packages employed in self-service stores usually consist of a cardboard or fiber tray upon which the meat is placed, and a heat-sealable plastic film encircles both tray and meat. Such packages have been objectionable in that the fiber tray absorbs the meat juices and becomes both soggy and unsightly. Additionally, the cardboard or fiber trays do not permit inspection of the bottom of the packaged article.

The term "meat," as used herein, refers to meat, poultry, fish, and the like.

It has heretofore been proposed to form the tray from a rigid or semi-rigid plastic sheet to overcome the foregoing disadvantages. However, meat stored in such trays surprisingly has turned grey or brown within a short period of time, thus reducing greatly the value of such an enclosure.

It is an object of the present invention to provide a novel tray for meat packaging.

It is a specific object to provide a transparent plastic tray for meat packaging which substantially prevents discoloration of meats received therein.

A further object is to provide a blank for a transparent meat packaging tray which may be printed or otherwise decorated, and which is easily assembled.

Other objects and advantages will be readily apparent from the following detailed description and attached drawing wherein:

FIG. 1 is a perspective view of a meat package having a tray formed from a blank prepared in accordance with this invention;

FIG. 2 is a plan view of a blank embodying the present invention;

FIG. 3 is a section along the line 3—3 of FIG. 2; and

FIG. 4 is a perspective view of a tray formed from the blank of FIG. 2 with one corner unassembled.

It has been found that a semi-rigid plastic tray which substantially prevents meat discoloration can be made from a blank consisting of a semi-rigid plastic sheet having a multiplicity of spaced perforations and placed in an envelope of flexible plastic film, i.e., interposed between two sheets of the film.

Although the nature of the beneficial effect accomplished by the combination of the perforated semi-rigid sheet and envelope of flexible plastic film is not fully understood, it is surmised that the heavy plastic sheet stock necessary to provide a semi-rigid tray is not permeable to gases, especially oxygen, and that this is the cause of the discoloration of the meats. In the present invention, the perforated structure of the semi-rigid sheet in cooperation with the envelope of relatively gas-permeable resilient film may provide both a reservoir of oxygen and a gas-permeable structure at the perforations. It is

to be understood, however, that the invention is not to be limited to the foregoing theory of operation.

Referring to the attached drawing, the blank of the present invention is comprised of a semi-rigid plastic sheet 2 encased in an envelope of two sheets of flexible plastic film 4. The sheet 2 is provided with a plurality of spaced perforations 6 and the corners are incised to enable folding of the blank into a tray generally designated as 8. The corners are preferably incised as illustrated, with parallel cuts 10 on opposed sides and inwardly sloping cuts 12 on the other sides.

Although the flexible films 4 may correspond substantially to the incised configuration of the sheet 2, they are of a somewhat larger size to enable sealing the two films about their periphery as at 13 to provide a sealed envelope for the sheet 2. This is conveniently a rectangular, unincised envelope as illustrated.

The cover for the tray 8, may be any transparent plastic material, but is preferably a heat-sealable material to enable ready closure of the package as illustrated in FIG. 1 by the numeral 14. Exemplary of those that may be employed are cellulose acetate, polyethylene, rubber hydrochloride, polyvinylidene chloride and other conventional wrapping films.

Although numerous transparent plastic materials may be employed, the combination of a biaxially-oriented polystyrene semi-rigid sheet, and cellophane or cellulose acetate flexible films has been highly satisfactory. However, other transparent plastic materials are also satisfactory, including polyethylene, rubber hydrochloride, polyvinyls, and various cellulose ethers and esters.

The semi-rigid sheet member should be of sufficient thickness to provide the required degree of rigidity but should not be so thick as to prevent the folding up of the sides to make the tray. Generally, a thickness of about 0.005 to 0.015 inch, and preferably about 0.0075 to 0.010 inch is preferred. The films should be sufficiently thick to provide a high degree of flexibility commensurate with strength for durability.

The tray is conveniently formed from the blank by folding the sides and then adhering the cooperating film surfaces together either by heat-sealing, or by application of adhesives or by use of a solvent to render the surfaces adherent.

The cover for the package may be any convenient plastic material. A heat-sealing film is most easily employed and may be adhered to the sides of the tray or to itself on the bottom of the tray.

The transparent trays formed from the blanks of the present invention enable storage of meats for prolonged periods of time. The plastic trays may be printed or decorated in a suitable manner if desired without substantially interfering with the transparent nature of the package.

Having thus described the invention, I claim:

1. A package of meat including a folded transparent tray container having a planar bottom wall and upstanding end and side walls, said tray container having a body member of a semi-rigid transparent plastic sheet encased in an envelope of transparent and relatively gas-permeable flexible plastic film providing layers of film on both sides of said body member, said plastic sheet having a multiplicity of perforations spaced about the major portion thereof; and meat supported in said container, said package being characterized by substantial freedom from discoloration of the meat for extended periods of time.

2. A package of meat consisting of a folded transparent tray having a planar bottom wall and upstanding end and side walls, said tray having a body member of a semi-rigid transparent plastic sheet encased in an envelop of transparent and relatively gas-permeable flexible plastic film providing layers of film on both sides of said body mem-

ber, said plastic sheet having a multiplicity of perforations spaced about the major portion thereof; meat supported in said tray; and a cover of transparent plastic film for said tray, said package being characterized by substantial freedom from discoloration of the meat for extended periods of time.

3. In the method of packaging meat, the steps comprising encasing a semi-rigid transparent plastic sheet in an envelope of transparent flexible and relatively gas-permeable plastic film, said semi-rigid plastic sheet having a multiplicity of perforations spaced about the major portion thereof and being incised at its corners for formation into a tray for receiving meat; folding said plastic sheet and film to provide a tray having a bottom wall and upstanding side and end walls, said envelope providing plastic film upon both sides of said plastic sheet to provide pockets of air in said tray at the perforations; placing meat into said try; and providing a cover of transparent plastic film over said meat and tray to enclose said meat and provide a package characterized by substantial freedom from discoloration of the meat for extended periods of time.

4. A blank for a transparent meat packaging tray comprising a planar semi-rigid transparent plastic sheet and an envelope of transparent flexible and relatively gas-permeable plastic film encasing said semi-rigid plastic sheet, said semi-rigid plastic sheet having a multiplicity of perforations spaced about the major portion thereof and being incised at its corners for formation into a tray for receiving meat, and said envelope providing plastic film upon both sides of said plastic sheet to provide pockets of air therein at the perforations.

References Cited in the file of this patent

UNITED STATES PATENTS

1,234,730	Chapman	July 31, 1917
1,482,727	Borchers	Feb. 5, 1924
2,485,028	Bauernfrennd	Oct. 18, 1949
2,717,731	Nerenberg	Sept. 13, 1955
2,859,122	Maturi et al.	Nov. 4, 1958
2,870,954	Kulesza	Jan. 27, 1959
2,918,379	Laurie	Dec. 22, 1959