

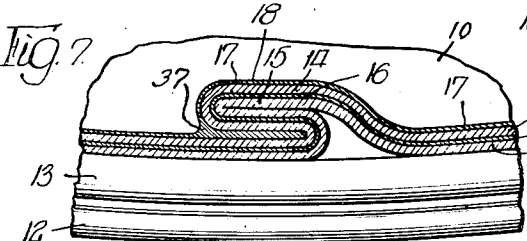
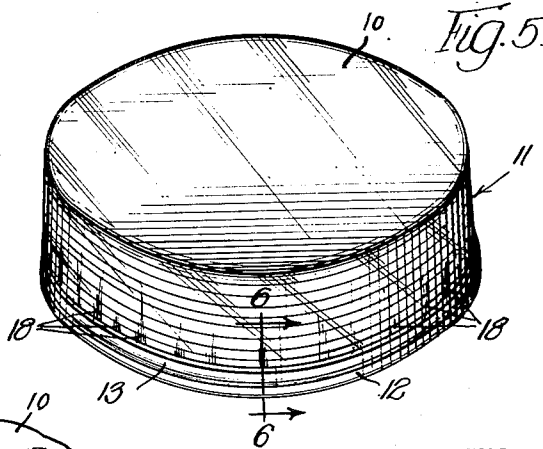
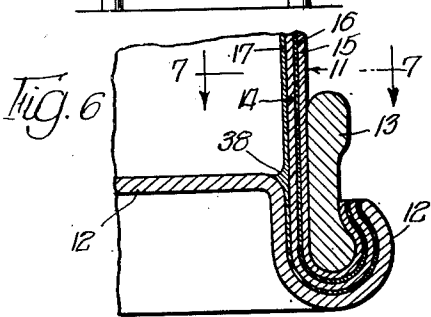
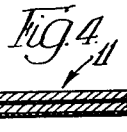
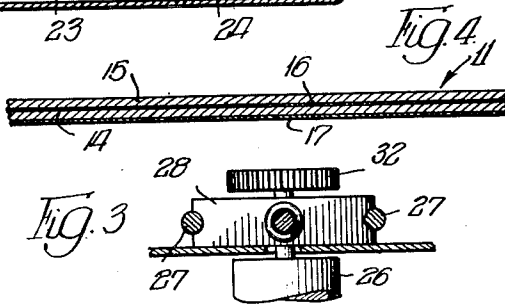
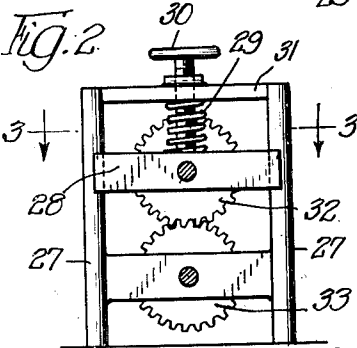
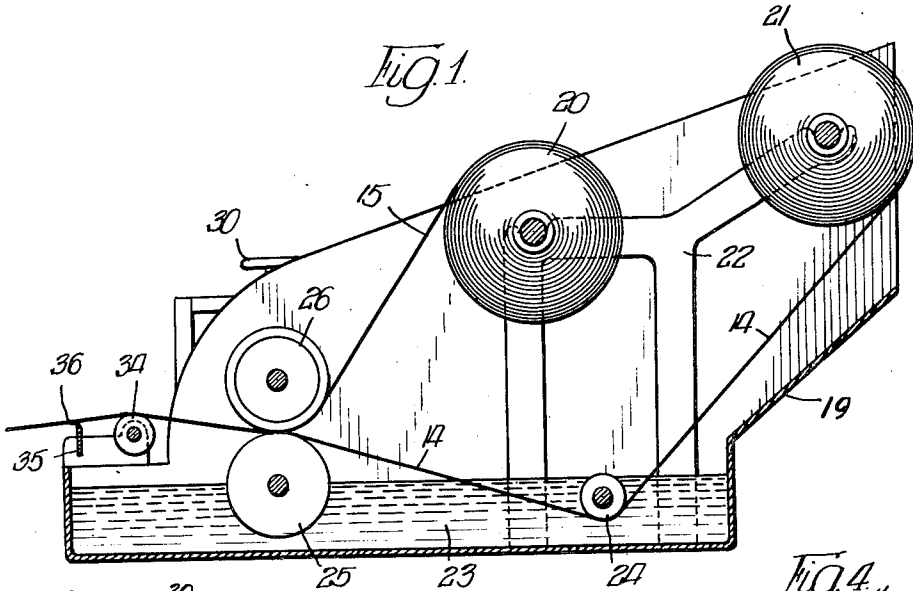
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FOOD PACKAGE

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2,787,552

FOOD PACKAGE

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This invention relates to packaging and is more particularly concerned with a food package in which a predetermined quantity of a product is enclosed in a relatively flexible transparent wrapper which forms the top and side walls of the package and which is sealed at its margins to the peripheral edges of a relatively rigid member which supports the product and forms the bottom wall of the package.

It is a general object of the invention to provide a package which is characterized by a transparent wrapper in the form of a bag, a closure therefor in the form of a relatively rigid panel member and a predetermined quantity of a food product arranged therein so that it is supported by the rigid closure member and visible through the bag or wrapper which is arranged with its marginal edges in sealed relation with the closure member.

It is a more specific object of the invention to provide a package of a food product, for example, sliced Bologna, and a method of forming the same, wherein a predetermined quantity of the product is arranged in superimposed stacked relation on a relatively rigid supporting member and enclosed in an impermeable transparent wrapper of relatively thin double-thickness film having an oil coating associated in sealing relation therewith, the wrapper having its marginal edges in sealed relation with the marginal edges of the supporting member, and wherein a relatively narrow tubular band of at least semi-rigid material is arranged around the product with one end thereof which is adjacent the margins of the supporting member secured to the peripheral portions of the supporting member and the marginal edges of the transparent wrapper.

It is another object of the invention to provide a package of a sliced meat product and a method of forming the same wherein a plurality of slices of the product are arranged in stacked relation with one end of the stack supported on a bottom forming metal disk and the sides thereof enclosed in a relatively thin flexible transparent wrapping material which is formed of at least two plies of thin film and a seal forming oil associated therewith and wherein a peripheral band of at least semirigid material encompasses the end of the product which is adjacent the bottom forming metal disk with the marginal edges of the wrapping material and the end of the band being crimp sealed to the edges of the bottom forming metal disk while the package is vacuumized and with the sealing oil cooperating with the wrapper and the metal disk to form an hermetically sealed package.

It is a further object of the invention to provide a package of the type in which the contents are visible through a transparent wall of the package comprising, in combination with the product which is packaged, a shallow bag forming wrapper of relatively thin flexible transparent material enclosing the sides and one end of the product, which bag is characterized by being formed of at least two plies of thin transparent film and a sealing oil between the plies of film and also on the inner walls

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of the bag, the product being supported on a substantially flat rigid closure disk overlying the open end of the bag with the periphery of the disk clamped about reversely folded marginal portions of the bag and the marginal edges of a band formed of at least semi-rigid material which extends around the periphery of the closure disk.

It is another object of the invention to provide an hermetically sealed food package comprising a rigid panel member, a band formed of at least semi-rigid material extending around the periphery of the panel member, a bag formed of double-thickness film having the mouth thereof securely crimped between the band and the panel member and a quantity of a food product contained within the bag and supported on the panel member, the double-thickness film having a thin coat of sealing oil between the plies thereof and a second coat of sealing oil covering the interior wall of the inner ply thereof whereby to insure that any pin holes in the films or any breaks therein due to the folding and crimp sealing at the mouth of the bag are closed by the sealing oil and a continuous film of the oil is maintained between the inner wall of the wrapper and the product.

These and other objects and advantages of the invention will be apparent from a consideration of the package and the method and apparatus employed in forming the same which is shown by way of illustration in the accompanying drawings, wherein:

Fig. 1 is a longitudinal section through a film treating tank which is employed in connection with the forming of the wrapper employed in the package;

Fig. 2 is a side elevation of the supports for the combining rolls in Fig. 1;

Fig. 3 is a fragmentary section taken on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary cross section through a portion of the wrapper employed in the package with the thickness of material greatly exaggerated;

Fig. 5 is a perspective view of the completed package;

Fig. 6 is a fragmentary section taken on the line 6—6 of Fig. 5, to an enlarged scale; and

Fig. 7 is a fragmentary section taken on line 7—7 of Fig. 6.

The package and the method of forming the same will be best understood by referring first to the completed package which is shown in Fig. 5 of the drawings. The illustrated package comprises a quantity of the product 10, which is indicated as a sliced Bologna or similar material, a wrapper 11 of transparent sheet material, which is in the form of a bag and which encloses one end and the greater portion of the side walls of the product 10, a bottom forming closure disk 12, which overlies the open end of the wrapper in engagement with one end of the contents or product 10, and a relatively narrow band member 13 surrounding the end portions of the side walls of the product 10 and the wrapper 11 which band member is secured to the margins of the wrapper 11 and to peripheral portions of the closure disk 12 in crimp seal relation therewith.

The package is especially adapted for use in packaging sliced meat products with a plurality of slices of the product arranged in superimposed relation and supported in upright stack forming condition on the closure disk 12. However, the package may be employed in the merchandising of various other products of a similar character such as sliced cheese, meat loaf or the like.

The wrapper or bag forming member 11 is preferably a two-ply sheet of relatively thin flexible transparent film material such as vinylidene chloride, e. g. "Saran," or other continuous plastic film or combinations of the same having similar characteristics. The inner and outer plies 14 and 15 (Fig. 4) of the wrapper 11 are separated by a

film of oil indicated at 16 and a coating of the same material, indicated at 17, is applied to the inside surface of the inner ply 14. The oil film 16 and the oil coating 17 serve as a sealing agent for closing any pin holes which may be present in the films 14 and 15 and for filling the crevices in the folds 18 which are formed at the seam where the wrapper is crimp sealed to the closure disk 12 (Figs. 6 and 7). Any suitable oil may be employed which is non-toxic and which does not have any deleterious effect on the product 10. Corn oil, peanut oil, cottonseed oil, soybean oil, mineral oil or animal oil may be used so long as it does not affect the taste or keeping quality of the product which is packaged.

The closure disk or support member 12 comprises a substantially flat panel-like member preferably formed of rigid material such as sheet metal. The member 12 may be round or square depending upon the nature and size or shape of the product 10. The marginal portion of the member 12 is adapted to be rolled into a crimp seal formation.

The band member 13 consists of a section of tubular material preferably of a somewhat rigid character formed of any suitable material such as a relatively stiff transparent or semi-transparent plastic, fiber or paper which is of generally rectangular cross section with a thickened section or reinforcing bead formation at the top edge.

In forming the package the wrapper 11 is first prepared, using the apparatus disclosed in Figs. 1 to 3. Two supply rolls 20 and 21 of suitable film material are provided which are combined to form the plies 14 and 15. The supply rolls 20 and 21 are supported in the tank 19 by means of bracket formations 22 above a quantity of the oil 23 which is adapted to form the oil film 16 between the wrapper plies 14 and 15 and the coating 17 on the inner surface of the ply 14. A small guide roll 24 is journaled in the tank 19 adjacent the bottom thereof so that the film material for ply 14 may be passed beneath the same and through the oil 23 to receive a coating on both of its surfaces. At the forward end of the tank 19 a pair of combining rolls 25 and 26 are mounted on end frames 27. The bottom roll 25 which dips into the oil bath 23 is preferably a metal roll while the upper roll 26 is preferably a rubber covered roll which is journaled at its ends in bearing members 28 which are movably mounted in the upright supporting frames 27. The upper roll 26 is urged against the fixed bottom roll 25 by compression springs 29 mounted on adjustable screws 30 which extend between the upper surface of the bearing members 28 and the top cross pieces 31 on the frames 27. The adjusting screws 30 are in screw threaded engagement in suitable apparatus in the bearings 28 so that the latter may be adjusted in the vertical direction. The combining rolls 25 and 26 are provided on at least one end with interengaging gears 32 and 33 so that they will rotate simultaneously without any uneven pull on the film material. The two films are guided between the combining rolls 25 and 26 and brought into surface engagement with the film of oil 16 between the same. The combined films, in the form of a laminate, are drawn by the operator from the rolls 25 and 26 over a relatively small guiding and supporting roll 34 journaled in the side walls of the tank 19 and thence over a cutting blade 35 which is provided with a serrated edge 36, and sheets of the combined film of the proper size to form the wrapper 11 are torn therefrom as required for the packaging operation.

The operator places a predetermined quantity of the product 10 on the inside ply 14 of the wrapper 11 and then assembles the wrapper and the product positioned thereon with the sealing band 13 and the closure member 12 which have previously been placed in a jig or form for the crimp seal operation. The margins of the wrapper 11 are reversely folded outwardly over the end edge of the sealing band 13 which surrounds the open end of the wrapper 11 and the adjacent end of the product 10 and the closure member 12 is positioned on the folded margins of the

wrapper 11. The margins of the wrapper 11, the closure band 13 and closure disk 12 are thereafter crimp sealed by a suitable seal forming mechanism of known type, such as a sealer used in the canning industry with the crimp seal being formed while the package assembly is in a vacuum chamber which forms a part of the sealer. After the sealing operation the projecting margins of the wrapper are trimmed to provide the completed package which is shown in Fig. 5. With the crimp seal as shown in Fig. 6, the marginal edges of the closure disk 12 are in clamping relation with the folded marginal edges of the wrapper and with the end of the tubular closure band 13. The sealing oil in the coating or films 16 and 17 is sufficient to fill the crevices in the folds 18 (Fig. 7) which are formed in the wrapper adjacent the crimp seal and to close up any holes or breaks in the plies which may be caused by the folding and crimp sealing operation. The oil on the inner surface merges at the folds or bridges the adjacent surfaces, as indicated at 37 and 38 in Figs. 7 and 6, to form an unbroken or continuous protective film extending over the inner wall of the wrapper and onto the closure member 12 regardless of the irregularity, location or direction of the folds or wrinkles which form in the wrapper as the margins of the same are folded over the bottom edge of the sealing ring or band 13 and the crimp seal operation is performed, which protective film provides a barrier against the transfer of gas or moisture between the product and the outer walls of the package. In addition, the sealing oil acts as a lubricant for the film during the crimping operation which occurs under vacuum. The films are held together by the oil but are free to slide relative to each other so that they withstand greater shock during the sealing without damage which results in leaks. Also the wrinkles are less noticeable since the oil holds the films together and causes the inner surface to cling to the surface of the product which increases the transparency in the wrinkled areas.

While a cylindrical product and package is illustrated it will be understood that the package may be rectangular or some other shape.

I claim:

1. An hermetically sealed food package comprising a rigid panel member, a band formed of at least semi-rigid material fitting the periphery of said panel member, a bag formed of double-thickness film having the mouth thereof securely crimped between said band and said panel member, and a quantity of a food product contained within said bag and supported on said panel member, said double-thickness film having a continuous thin coat of a non-toxic sealing oil between the plies thereof and a second continuous coat of a non-toxic sealing oil covering the interior of said bag.
2. A food package comprising a base supporting member of relatively thin rigid sheet material, a predetermined quantity of a food product supported on said base member, a transparent covering member formed of two sheets of relatively thin transparent film material enclosing said food product, and a band formed of semi-rigid tubular material surrounding the end of said food product which has one end thereof engaging with said base supporting member, said covering member having its edges securely crimped between peripheral portions of said base supporting member and the adjoining end of said band member and said covering member having a coating of non-toxic sealing oil on its inside surface and between said two sheets of film material.
3. A package for a product which consists of a stack of relatively thin slices of meat arranged to form an upright mass, said package comprising in combination with said product a wrapper of transparent material which is draped over one end of the product in snug engagement with the top end and adjoining side walls thereof, said wrapper consisting of at least two plies of relatively thin pliable transparent film material having a non-toxic sealing oil between the plies and on the inside

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surface of the inner ply, an open-ended tubular member of comparatively rigid material of substantially less length than the axial dimension of the product telescopically associated with the wrapper enclosed product at one end only thereof, said tubular member extending from one end of the product at the open end of said wrapper and terminating at a distance from the other end thereof sufficient to expose said other end of the product including substantial portions of the side walls, and a substantially flat rigid disk closing the open end of said wrapper and supporting the adjoining end of the product, said wrapper having its margins folded about the adjoining edges of said tubular member and said closure disk having its marginal edges in clamping relation with the folded marginal edges of said wrapper and with the end of said tubular member, whereby the product is protected by a continuous oil film between the same and the inner surface of the wrapper.

4. A package of a food product which is arranged to form an upright mass, said package comprising the combination with a predetermined quantity of the product, of a wrapper of flexible transparent material enclosing the sides and one end only of the product, an open-ended tubular member of comparatively rigid non-metallic material telescopically associated with the wrapper enclosed product at the opposite end only thereof, said tubular member being relatively short and having one end terminating at a point to expose the said one end and substantial portions of the adjoining sides of the wrapper enclosed product and having the other end terminating adjacent the other end of the product, the margins of said wrapper being reversely folded outwardly about the end of said tubular member, and a substantially flat rigid metal closure disk overlying the open end of said wrapper in abutment with the adjacent end of the product, said disk having its margins crimp sealed about the reversely folded margins of said wrapper and the end of the said tubular member and said wrapper being formed of at least two plies of relatively thin pliable film material having a non-toxic sealing oil between the plies and on the inside surface of the inner ply thereof which sealing oil is adapted to fill the crevices between the wrinkled portions of the margins of the wrapper adjacent the reverse fold and the crimp seal and to form a continuous protective moisture barrier on the inner surface of the wrapper.

5. A method of packaging a food product which is in a generally cylindrical substantially upright mass which comprises forming a wrapper of at least two plies of relatively thin flexible transparent film material with a film of non-toxic sealing oil between the plies and on the inside surface of the inner ply, arranging a predetermined quantity of the product on the inner surface of the inner ply, assembling the product and the associated wrapper with a tubular sealing band, the sealing band being arranged in telescoped relation around the end of said wrapper enclosed product with one end of the band terminating at one end of said product and with the other end of the band being spaced a substantial distance in the axial direction from the other end of the product, folding the margins of the wrapper about the end of the sealing band, placing a substantially flat closure member of relatively rigid material over the open end of the wrapper and in abutting relation with the end of the product, and crimp sealing the margins of the end closure member about the reversely folded margins of the wrapper on the end of the sealing band, whereby the product is completely enclosed with one end and adjoining portions of the side walls thereof visible through the transparent wrapper and with the sealing oil in the wrapper forming a moisture barrier between the product and the wrapper.

6. A method of forming an hermetically sealed food package which comprises assembling a predetermined quantity of a food product in a bag which is formed of

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double-thickness film having a thin coat of non-toxic sealing oil between the plies thereof and a second coat of non-toxic sealing oil covering the interior thereof, encircling the open end of the bag with a relatively narrow band formed of at least semi-rigid material and folding the margins of the bag about the edge of the band, and crimp sealing the margins of a relatively rigid panel member about the folded over margins of the bag and the edge of the band.

7. A method of enclosing a food product in an hermetically sealed package which comprises forming a flexible wrapper of at least two plies of relatively thin film material with a coating of a non-toxic sealing oil between the plies thereof and with a second coating of said sealing oil on the surface of the inner ply, placing the oil coated surface of the wrapper in contact with a predetermined quantity of the product and folding the wrapper into the form of an open bag, placing a relatively narrow band of semi-rigid material around the bag adjacent the open end thereof and reversely folding the marginal portions of the wrapper about the edge of the band, positioning a closure member of relatively thin, rigid, bendable material against the exposed end of the product with the margins thereof abutting the folded marginal portions of the wrapper, and crimp sealing the edges thereof to form a seam with the folded portions of the wrapper secured between the band and the closure member.

8. An hermetically sealed food package comprising a rigid panel member, a band formed of at least semi-rigid material fitting the periphery of said panel member, a bag formed of a double-thickness vinylidene chloride film having the mouth thereof securely crimped between said band and said panel member, and a quantity of a food product contained within said bag and supported on said panel member, said double-thickness film having a continuous thin coat of a non-toxic sealing oil between the plies thereof and a second continuous coat of non-toxic sealing oil covering the interior of said bag.

9. An hermetically sealed vacuumized package of a food product comprising a rigid panel member forming a product supporting base, a band formed of at least semi-rigid material extending around the margins of said panel member, a bag formed of a double-thickness transparent film material having the mouth forming marginal portions thereof extending within said band and securely crimped between said band and said panel member, and a quantity of a food product contained within said bag and supported on said panel member, said bag having a relatively thin coating of a non-toxic sealing oil between the plies of said film material and on the inner surface of the inner ply thereof to form a continuous protective moisture barrier between the product and the bag.

10. A method of forming an hermetically sealed vacuumized food package which comprises assembling a predetermined quantity of a food product in a bag which is formed of double-thickness film having a thin coat of a non-toxic sealing oil between the plies thereof and a second coat of said sealing oil covering the interior thereof, encircling the open end of the bag with a relatively narrow sealing band which is formed of a semi-rigid material, folding the margins of the bag about the edge of the band, placing a relatively rigid panel member over the open end of the bag and in abutting relation with the end of the product, vacuumizing the assembly, and crimp sealing the margins of the panel member about the folded over margins of the bag and the edge of the band while the assembly is vacuumized.

References Cited in the file of this patent

UNITED STATES PATENTS

2,557,576	Simmons	June 19, 1951
2,621,129	Ramsbottom et al.	Dec. 9, 1952
2,635,049	Eldredge	Apr. 14, 1953