

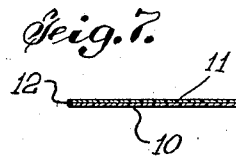
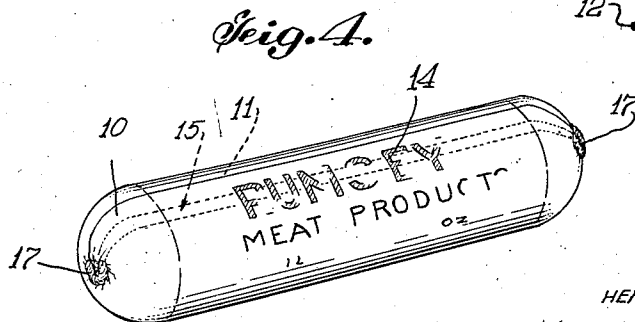
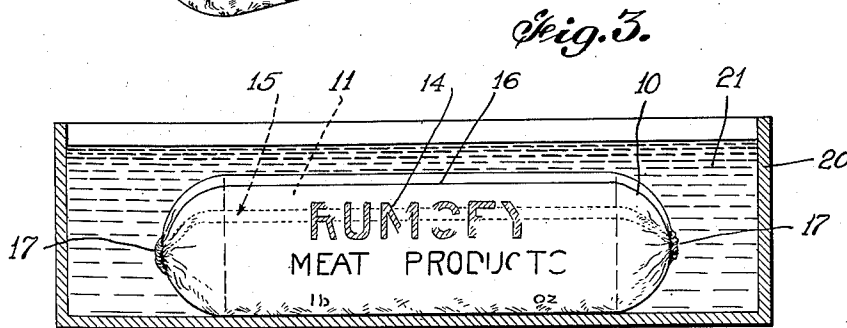
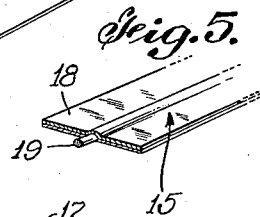
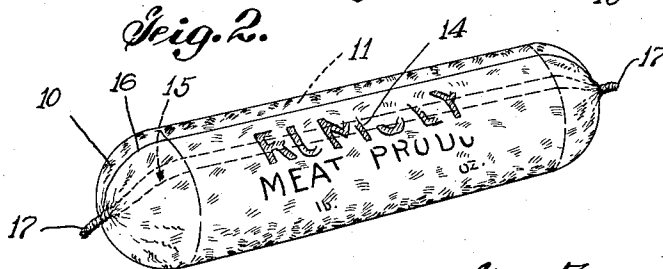
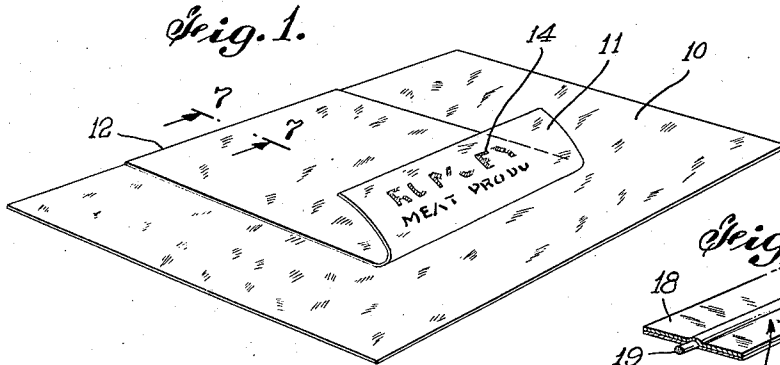
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METHOD OF MAKING A FOOD PACKAGE

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METHOD OF MAKING A FOOD PACKAGE

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2 Claims. (Cl. 99—171)

This invention relates to an improved commercial package and method of making the same.

In merchandising food products, it is becoming increasingly important that the products be encased in attractive packaging which will not only afford protection to the product but will also display the product to best advantage and enhance its keeping qualities. It is also important that the packaging material and the method of assembling the package be relatively inexpensive so as not to unduly increase the cost of the product. It is often desirable to display printed labelling, advertising or instructions on the package and where the packaging is made from one of the transparent plastic films it does not readily lend itself to print in the thinner gauges. In addition, with many types of food products such as meat products it is important that the wrapper be impervious to air and that a minimum amount of air be entrapped within the package thereby enhancing the keeping qualities of the product and help to preserve the smooth, tight-fitting relation of the wrapper. Also, it is of importance that the package be securely held in wrapped or closed position by simple but effective sealing means adaptable to mass production methods of handling.

It is an object of the present invention to provide an improved commercial package and a method of making the same which is particularly suited for food products, which presents an attractive appearance, which provides ample protection to the packaged product, which displays the product to best advantage, which lends itself readily to the display of labelling, advertising or instructional material, which is relatively simple and inexpensive and which embodies an effective sealing or closing device for holding the packaging in closed or wrapped position.

In the accompanying drawing—

Fig. 1 is a perspective view of improved packaging material embodying my invention showing it before it is assembled around a food product;

Fig. 2 is a perspective view of a package having the packaging material loosely assembled therearound prior to shrinking;

Fig. 3 is a partially sectional side elevational view showing the package submerged in a heated liquid so as to shrink the packaging material therearound and remove the free air from the package;

Fig. 4 is a perspective view of the completed package with the packaging material tightly wrapped around the package contents after shrinking;

Fig. 5 is a fragmentary perspective view of the sealing or closing means employed in my improved package;

Fig. 6 is a cross-sectional view of one of the twisted ends of the completed package; and

Fig. 7 is a cross-sectional view on the line 7—7 of Fig. 1 showing the connected edges of the two layers of wrapping material.

My improved packaging is applicable to many types of

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food products such as meat products including pork butts, meat loaf, bologna or the like, and comprises generally a plurality of layers of thermoplastic sheet material wrapped around the product in tubular form with the longitudinal edges in overlapping relationship and with the two ends of the material projecting beyond the package and twisted tightly. An improved frictional sealing or holding device is extended longitudinally of the package into the twisted ends to hold the package in closed or wrapped position.

Referring to Fig. 1 of the drawing I have shown two layers of wrapping material 10 and 11 made of a suitable thermoplastic film which can be shrunk after it has been applied to the package by subjecting it to heat lower than the melting or plasticizing temperature thereof. For this purpose, I may use polyvinyl films such as polyvinylidene chloride film available commercially under the trade name Saran, or rubber hydrochloride film available commercially under the trade name Pliofilm. In this connection, the two layers should preferably be made of the same wrapping material so that they will have the same coefficient of contraction, with the result that they will shrink uniformly when the finished product is subjected to heat as hereinafter explained.

The inner layer 11 is somewhat narrower than the outer layer 10 but both of the layers are preferably of the same length so that the end edges are flush with each other. The two layers may be free from attachment to each other or they may be suitably laminated together by a solvent or cement or the end edges may be heat sealed together as shown at 12 in Fig. 7. The heat sealing can be accomplished by applying heat to the two edges above the plasticizing point of the material and one convenient method of accomplishing this is to sever the edges of the layers 10 and 11 while they are in contact with each other by means of a heat severing blade such as that shown in my Patent No. 2,635,272 granted April 21, 1953.

The outer layer 10 is preferably of a lighter gauge than the inner layer 11 and as a matter of fact the outer layer may be of such a thin gauge that it would not be practical to print thereon. On the other hand, the inner layer 11 should be of sufficient thickness so that it is practical to print thereon. Suitable labelling, advertising or instructional material 14 is printed on the outer surface thereof, so that the printed matter rests against the inner surface of the layer 10 and is displayed therethrough when it is applied to the package. The outer layer being of thinner gauge is less costly than the inner layer. As previously explained, I make the outer layer larger in one dimension than the inner layer so as to encase the entire package. The inner layer can be relatively narrow and extend only partially across the width of the package, thereby reducing the cost of the package.

It will be appreciated that the packaging material consisting of the two layers arranged in superimposed relationship is cut to the proper size for the package contents to be encased therein. In other words, the two layers should be of sufficient length so that the wrapper can be wrapped around the package contents in tubular fashion with the end edges in overlapping relationship. The outer layers 10 should be of sufficient width that the two side edges project beyond the side edges of the package contents so that the projecting edges can be twisted to completely encase the contents.

As previously pointed out, the inner layer 11 is preferably narrower than the outer layer and, as a matter of fact, may be narrower than the package contents wrapped therein. However, in those cases where added strength is desired in the wrapping material the inner layer 11 may

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extend completely across the package contents being wrapped therein. The two layers 10 and 11 are placed face downwardly upon the wrapping surface and the package contents placed upon the inner surface of the material. At this step in the packaging process, or prior thereto, my improved sealing or holding device 15 is extended across the packaging material adjacent and parallel to one of the end edges as shown in Fig. 1. Thereafter, the superimposed layers of wrapping material along with the locking device 15 are wrapped around the package contents in tubular form with the end edges in superimposed relationship as shown at 16 and with the locking or sealing device 15 extending completely across the package and projecting beyond the two sides thereof. The projecting side edges of the outer layer of wrapping material 10 together with the ends of the locking or sealing device 15 are then twisted together at the two ends of the package as shown at 17 to hold the package in closed or wrapped condition. The outer layer being of thinner gauge than the inner layer it can be readily twisted and can be more readily held in twisted form. We wish to point out, however, that throughout the main body of the package where added strength is required the product is encased in two layers of material.

My improved locking or sealing device is shown in detail in Fig. 5 and is in flat, ribbon form consisting of two superimposed layers of paper adhesively secured together with a metal wire 19 which will readily take a permanent set extending through the central portion thereof. Thus, the device takes the form of a soft metal wire which can be twisted or formed and will hold its position, and which is provided with two relatively stiff fins projecting from opposite sides thereof.

When the protruding ends of the wrapping material having the locking device 15 disposed therein are twisted, the protruding fins 18 on the two sides of the wire interlock with the wrapping material as shown in the cross-sectional view, Fig. 6. The wire remains set in the twisted position and the interlocking between the fins and the wrapping material prevent the untwisting or release of the wrapping material with the result that the twisted ends are held in closed or sealed relationship.

When the wrapping material has thus been wrapped around the package contents and the two projecting end portions have been twisted the wrapping remains relatively loose and wrinkled as shown in Fig. 2. In order to provide a package which will display the product to best advantage I thereafter shrink the wrapping material uniformly around the package so that it presents the neat, attractive, tightly wrapped appearance shown in Fig. 4. I accomplish this result by applying heat uniformly to all portions of the wrapping material by immersing the loosely wrapped package in a heated liquid such as hot water as shown in Fig. 3. Where the wrapping material consists of polyvinylidene chloride or rubber hydrochloride, I have found that the water should be of a temperature of 190° F. or a little higher. The wrapped package is completely immersed in the hot water as shown in Fig. 3. Thus, I may provide a small tank 20 containing a heated liquid such as hot water, and large enough to permit the package to conveniently be immersed in the water. The package is immersed in the water for a sufficient length of time to cause the heat to shrink the material. As the thermoplastic material shrinks simultaneously the heat causes expansion of the entrapped air inside of the package. The combined action of the expansion of the air and the contraction of the wrapping material forces the air outwardly between the overlapped end edges of the wrapping material 16 as indicated by the escaping air bubbles in Fig. 3. This, of course, provides a neater, tighter package with a minimum of air bubbles therein and in addition the escaping air prevents any water from entering between the overlapped edges 16 while the package is submerged in water. The package should be removed from the water, when practically all of

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the free air has been removed from the package and either prior to or at the time that the shrinking stops. The shrinking operation not only causes the wrapping material to stretch and to fit smoothly over the package contents, but also causes it to shrink in conformation with the shape and configuration of the package, with the result that it is shaped, molded or fitted to the contours of the package contents. This not only enhances the appearance of the package but also causes the overlapped edges 16 to fit tightly and eliminates the necessity of heat sealing this area. Where multiple layers of the same wrapping material are used in the package they will shrink uniformly. However, the sequence described herein of uniformly applying heat by submerging in a heated liquid is equally applicable to packages having but a single layer of heat shrinking, wrapping material.

The finished package will then present the neat, attractive appearance shown in Fig. 4, with the wrapping material protecting the package contents, with the package contents displayed to best advantage, with the printed labelling, advertising or instructional material clearly displayed through the tightly stretched outer layer and protected thereby and with the twisted end portion 17 of the wrapping material held in tightly sealed or closed relationship. During the heating operation, the thermoplastic wrapping material in the twisted end portions shrinks, and the stressing of the material in this fashion serves to hold the twisted end in tightly closed relationship. Due to the fin-like structure of the sealing device 15 the ends can be readily untwisted when desired so as to open the package and expose the contents thereof. My improved package is made of relatively inexpensive materials and is simple to assemble by mass production methods.

Modifications may of course be made in the illustrated and described embodiments of my invention without departing from the invention as set forth in the accompanying claims.

I claim:

1. The method of making a commercial package for a food product which comprises: first providing a sheet of thermoplastic wrapping material which is substantially impermeable to air and water and which is of the type which shrinks when subjected to an elevated temperature; then completely wrapping said sheet of wrapping material around the food product in one direction with opposite edges of the wrapping material arranged in overlapping relationship while other edges of the wrapping material project beyond the food product at opposite ends thereof; closing and restraining the projecting ends of the wrapping material; and finally subjecting all portions of the wrapping material to a uniform elevated temperature above the temperature at which it shrinks by completely covering the entire package with a heated liquid for the period of time during which air bubbles are escaping through the aforesaid overlapping edge portions of the wrapping material so as to shrink the wrapping material causing it to conform to the contours of the food product and to mold the food product and so as to cause the wrapping material to be stretched tightly around the package to present an attractive appearance, and also simultaneously driving substantially all of the free air therefrom.

2. The method of making a commercial package for a food product as set forth in claim 1 in which the projecting ends of the wrapping material are closed and restrained by being twisted and the wrapping material in the twisted projecting ends is shrunk when the package is covered with the heated liquid so as to bind the twisted ends in closed relationship.

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