

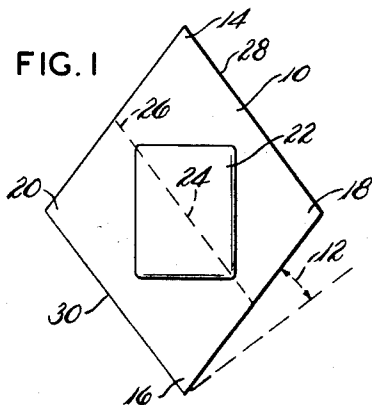
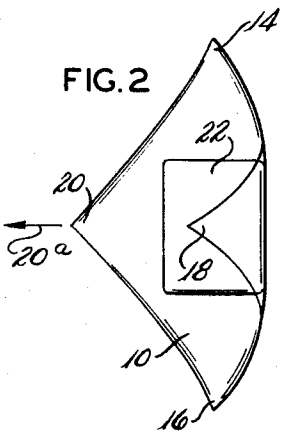
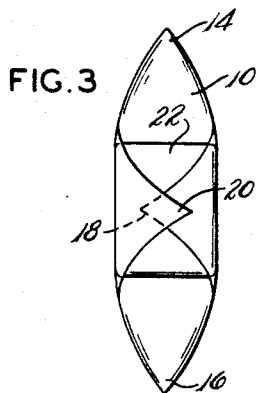
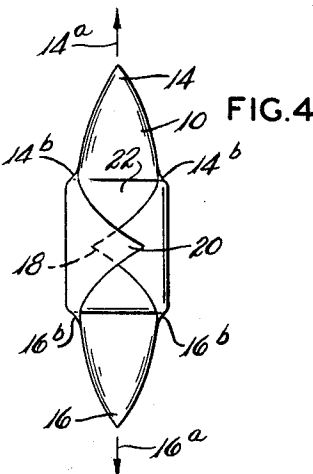
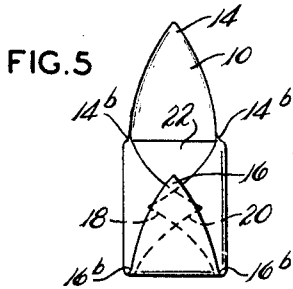
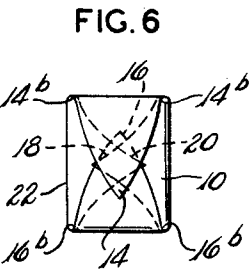
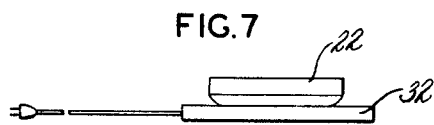
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P. J. VAUGHAN

3,392,503

METHOD FOR WRAPPING PACKAGES

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INVENTOR.
PAUL J. VAUGHAN

BY *Oldham & Oldham*

ATTYS.

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METHOD FOR WRAPPING PACKAGES

Paul J. Vaughan, Cuyahoga Falls, Ohio, assignor, by
mesne assignments, to Filmco, Inc., Aurora, Ohio,
a corporation of Delaware

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ABSTRACT OF THE DISCLOSURE

A method for wrapping packages with a diaper-type wrap using a soft stretchable elastic film wherein, after the first pair of opposing flaps are folded over the package, the second pair of flaps are stretched to cause them to neck down and then are folded over the package in the necked-down condition resulting in closed and neat corners, and then the four flaps are heat-sealed together.

This invention relates to a method for wrapping packages, and more particularly to the utilization of a parallelogram shaped soft stretchable and somewhat elastic transparent film primarily adapted for manually wrapping meats to give a high quality wrap, and better appearance to the meat while utilizing as small an amount of film as possible.

Heretofore it has been well known in the meat packaging industry to utilize cellophane or Pliofilm type, transparent wrapping materials to provide a sanitary and neat appearance to the meat products being sold in self-service meat markets. Certain wrapping techniques have come into play for wrapping these meat products. Most of these wrapping techniques involve either square or rectangular shapes, because the meat itself is put into this shaped paper or cardboard carrying tray.

Heretofore, one of the conventional types of wrapping has been with a square central positioning of the package relative to a square or rectangularly shaped piece of material. However, it was found that with this technique, there was considerable waste material in the wrap. Thus, the industry went to a diaper-type wrap where the package is placed diagonally across the square or rectangular sheet with the corners folded in a diaper type sequential wrapping around the package. It was found that film savings of between about ten to about sixty percent resulted using the diaper type wrapping technique when compared to the square wrapping technique. Then, it was found that an additional savings in material could be obtained utilizing a slight parallelogram shaped material with the same diaper type wrapping technique. In fact, further reductions in material used between about five and about fifteen percent were found possible utilizing the parallelogram shape where the acute angles of the parallelogram were cut so as to fall between about 65° to about 75°.

With the increase in population and the increase in self-service meat markets, it becomes apparent that any improved wrapping method for meat packaging represents a substantial benefit to the entire industry. The importance of this technique is rather fully set forth in Marketing Research Report No. 44 prepared by the United States Department of Agriculture and printed by the U.S. Printing Office in 1953. Clearly, as set forth in this report, the critical factors in meat wrapping are speed in combination with a minimum of material utilized.

Therefore, it is the general object of the present invention to avoid and overcome the foregoing and other difficulties of and objections to prior art practices and to meet the needs of the art by providing a method for manually wrapping meat products in a soft transparent stretchable film which is very fast, provides an extremely

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attractive finished wrapped product, and utilizes a minimum amount of material.

A further object of the invention is to provide a method for manually wrapping meat and the like with a parallelogram shaped transparent stretchable film with a diagonal type wrap where all the corners of the wrapping film are positively tucked into wrapped position because of a necking down of the material adjacent the package when utilizing the method of the invention.

The aforesaid objects of the invention and other objects which will become apparent as the description proceeds are achieved by providing a method to wrap a rectangular package with a soft somewhat elastic transparent film tacky relative to itself which comprises cutting a parallelogram shaped sheet of film where the acute angles thereof are between 65° to about 75° and of sufficient size to provide about a one inch overlap of the corners containing the obtuse angles when the package is positioned centrally on the sheet of the film with a diagonal line through the corners of the package substantially parallel to and midway positioned between two sides of the sheet of film, holding the corners containing the obtuse angles in a stretched girth wrap around the package, stretching both the remaining opposite corners away from the package to achieve a necking down of the sheet of film adjacent the package on those respective sides, folding the remaining corners alternately over the overlapped girth wrap in stretched, necked down relation, and heat sealing the wrapped corners in position.

For a better understanding of the invention reference should be had to the steps of the method indicated in the drawings wherein:

FIGURE 1 is a plan view of a diagonally cut piece of film material with a rectangularly shaped meat package positioned in proper relation thereon to commence the wrapping process;

FIGURE 2 shows the first corner portion pulled over to begin the girth type wrap;

FIGURE 3 illustrates the completion of the girth type wrap as the opposite corner is folded over;

FIGURE 4 represents stretching either together or alternately of the opposite corners to effect a necking down of the film adjacent each of the four corners of the package;

FIGURE 5 represents one of the necked down corner portions folded into position over the girth wrap;

FIGURE 6 represents the opposite and last corner portion folded down to complete the wrap; and

FIGURE 7 is a side elevational view of the wrapped package of FIGURES 1 through 6 having the four folded corner portions heat sealed into fixed relationship with each other.

While it should be understood that the wrapping process described hereinafter might be applicable to any type of package being wrapped, it has been designed specifically for wrapping meat and meat products with a transparent soft stretchable film, and hence it has been so illustrated and will be so described.

As set forth above, there have been effectively two standard ways to wrap meat in the past. Basically, these consisted on the diagonal or diaper-type wrap with either a square, rectangular or parallelogram shaped piece of material. Basically, this wrap was limited to regular cellophane sheets which might be conveniently cut to size and stacked for ready usage. The conventional soft type sheets such as Pilofilm, or other suitable vinyls or plastics have not been readily adaptable to the precut parallelogram shaped dimensions because of their tendency to stick to themselves. The diagonal wrap with cellophane included crossing over opposite corners to meet on the back of the cardboard retaining base, and heat sealing them into position, then folding and heat

sealing each of the other corners respectively down on top of the heat sealed girth wrap while at the same time tucking the normal bunching at the corners of the package occurring when these opposite corners were moved alternately into position following the girth type wrap. It was found that wrapping in this manner with cellophane took between 30 seconds and 1 minute for each wrap, but did use a minimum of material when the parallelogram shape to the cellophane was utilized. However, the necessity for the tuck folds at each corner of the package when the last two corners of the cellophane wrap are moved into position causes the wrap to be rather slow, as well as bunched up and unsightly in appearance.

The second type of substantially conventional wrap would be the regular rectangular wrap where the package is placed into square relationship centrally of a square or rectangular shaped wrapping material. The material is wrapped around the package with an inch or so overlap on one flat surface thereof, and then the end portions are folded under to one side and heat sealed into position. Again, a tuck is required to effectively make these lay down properly. It has been found by analysis in the Agriculture Report cited above that this type of wrap uses between 15% to 50% more film or material than with the parallelogram type diagonal or diaper wrapping technique.

Thus, it becomes the primary object of the invention to improve upon the normal cellophane type diagonal wrap utilizing a parallelogram shaped piece of material whereby the wrapping time can be substantially reduced, while still utilizing a minimum of material.

With reference to the drawings, FIGURE 1 illustrates a parallelogram shaped piece of material 10, normally soft, flexible, and stretchable, as well as being transparent. The invention contemplates that the parallelogram shape will be cut off from a longitudinally traveling web at an angle normal to the longitudinal movement of the web of between about 15° and about 25°, as indicated by the dotted line 12. In other words, the acute angles 14 and 16 of the material 10 will be between 65° and about 75° while the obtuse angles 18 and 20 will be between about 105° and 115°.

A package 22 of meat is illustrated in face down relationship so the bottom of the normal paper or cardboard carrying tray is visible. In essence, the tray or package 22 is positioned on the material 10 so that an imaginary line running through each of the opposite corners will substantially coincide with a line parallel to the sides of the material and midway spaced therebetween. For example, an imaginary dotted line 24 through the opposed corners of the package 22 substantially coincides with an imaginary dotted line 26 which is parallel to the sides 28 and 30 of the material 10 and midway positioned therebetween.

The first step in the wrapping process is to move the corner 18 into folded over position onto the tray or package 22, as illustrated in FIGURE 2. This is then held in position by the person's hands while the opposite corner 20 is stretched in a direction indicated by arrow 20a and then folded over onto the tray or package 22 so as to overlap the corner 18 already folded into position and held manually. Since the soft film material being utilized is tacky relative to itself, the overlapping fold indicated in FIGURE 3 will hold itself pretty well with very little manual retention necessary to hold it in position. This procedure, as indicated in FIGURES 2 and 3 provides a fairly secure girth type wrap and can be accomplished very quickly by manual operation of a person making the folds.

One of the unique aspects of this folding process is in the ability to eliminate the necessity for corner tucks when the corners 14 and 16 are folded into position. In order to accomplish this time saving feature, the corners 14 and 16 are stretched outwardly manually as indicated by the arrows 14a and 16a, either one at a time or to-

gether to in essence, by such stretching, cause a necking down of the film material at areas 14b and 16b as clearly indicated in FIGURE 4 of the drawings. Such necking down occurs adjacent each of the corners of the package or tray 22 and thus allows each of the respective corners 14 and 16 to be folded manually over into lapped position relative to the corners 18 and 20 without the necessity for tucks adjacent the corners of the package 22, as clearly indicated in FIGURES 5 and 6. Note the necked down portions 14b and 16b in FIGURES 5 and 6 clearly eliminate the necessity for manually tucking in this excess material to prevent an undesirable bunched up or pushed outwardly appearance to the film at the corners of the package or tray 22. In essence, after each stretched fold is completed, it normally is retained manually in position even though it has adhered because of its tacky condition to the other folds already in position. As a final step, with all the folds then positively fixed with relation to each other the package is placed, upon a conventional heat seal, as indicated in FIGURE 7 which is supplied by a suitable hot plate 32. Normally, such heat seal requires that the package 22 be merely laid in position for a few seconds on the hot plate 32 with all the folds between the hot plate and the bottom of the package with the mere gravity of the package 22 forcing the folds against the hot plate 32 and normally achieving the proper heat seal.

Thus, it is seen that the method of the invention achieves a very rapid, yet very effective wrap of meat products with a transparent soft film shaped as a parallelogram where no excessive manual operation in the fold is necessary because of the stretched necking down technique utilized to eliminate the necessity for corner folds normally associated with the conventional wrapping techniques utilized today. It is believed that this particular process will reduce folding time by about 50% when compared with normal techniques, while utilizing the absolute minimum amount of material to make a complete and effective wrap of the meat products normally utilized in self-service meat markets.

While only one particular wrapping technique associated with a rectangularly shaped package has been illustrated and described, it is to be understood that this technique is also possible with square or other irregularly shaped meat products. Thus, the necking down technique to eliminate the necessity for corner folds and the ugly bunching at the corners may be applicable to other packing shapes. The inventive scope is defined in the appended claims.

What is claimed is:

1. In a method for wrapping substantially square or rectangularly shaped packages with a soft transparent stretchable somewhat elastic film which includes cutting a parallelogram shaped piece of material to achieve a girth wrap around the respective package with about a one inch overlap, positioning the package centrally relative to the material whereby a diagonal line through the corners of the package is substantially aligned parallel to and midway between two of the parallel sides of the material, folding a tightened girth wrap around the package with first opposite corners of the material preferably adjacent the longer sides of the package whereby the corners overlap on one large face of the package, the improvement which comprises stretching both remaining opposite corners away from the package to effect a necking down thereof relative to the corners of the package, folding the stretched and necked down opposite corners in stretched condition over the overlapping first opposite corners, and then heat sealing the wrapped corners into relation with each other.

2. In a method for wrapping a rectangular package with a soft somewhat elastic transparent film tacky relative to itself which includes cutting a parallelogram shaped sheet of film where the acute angles thereof are between 65° to about 75° and being of sufficient size to provide

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a minimum overlap of the corners containing the obtuse angles when the package is positioned centrally on the sheet of film with a diagonal line through the corners of the package parallel to and midway positioned between two sides of the sheet of film, folding the corners containing the obtuse angles in a stretched girth wrap around the package, the improvement which comprises stretching both remaining opposite corners away from the package to achieve a necking down of the sheet of film adjacent the corners of the package on those respective sides, folding those remaining corners alternately over the over-

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lapped girth wrap in stretched, necked down relation, and then heat sealing the wrapped corners in position.

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WILLIAM W. DYER, JR., *Primary Examiner*.
H. M. CULVER, *Assistant Examiner*.