April 3, 1945. J. F. PALMER 2,372,735

PACKAGING WRAPPER AND METHOD OF PRODUCING THE SAME

Filed Jan. 17, 1941

Fig. 1.

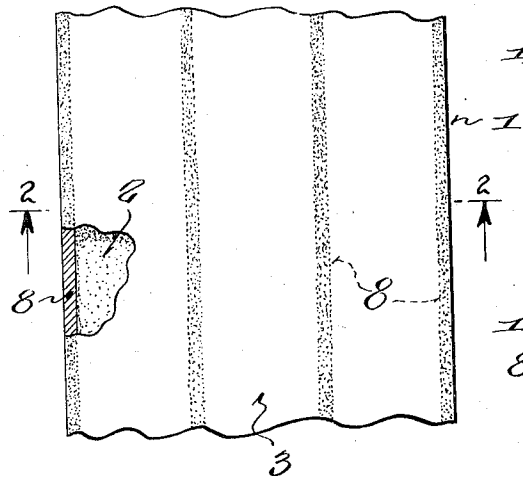


Fig. 2.

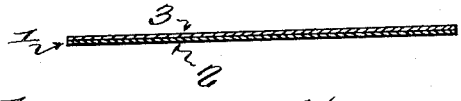


Fig. 4.

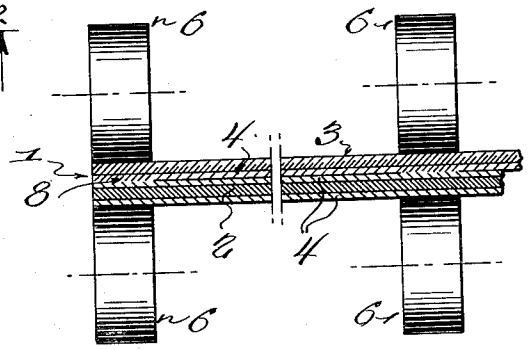


Fig. 3.

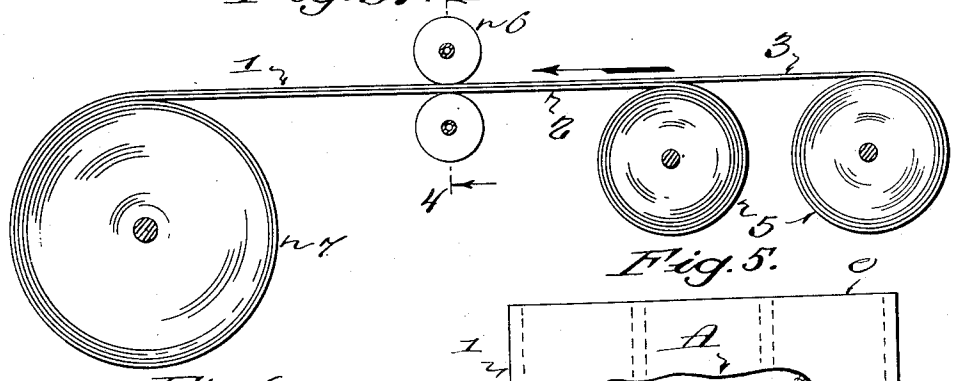


Fig. 5.

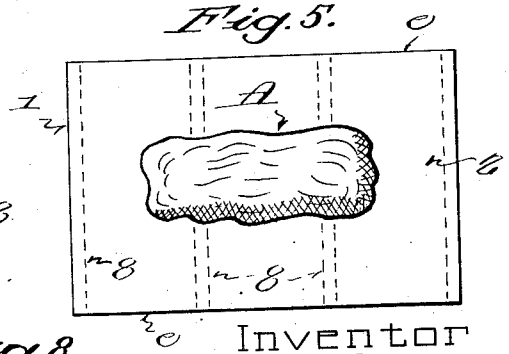


Fig. 6.

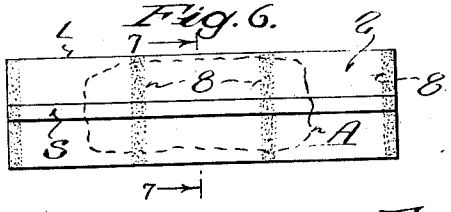


Fig. 7.

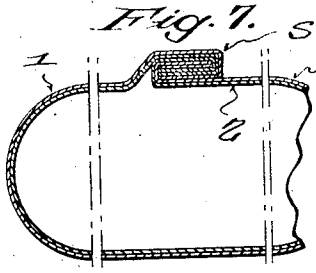
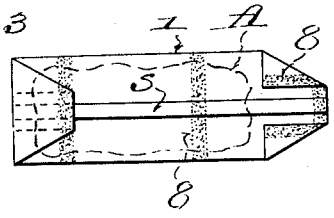


Fig. 8.



Inventor
J.F.Palmer

By

Attorneys

Patented Apr. 3, 1945 2,372,735

UNITED STATES PATENT OFFICE

2,372,735

PACKAGING WRAPPER AND METHOD OF PRODUCING THE SAME

John Frederick Palmer, Waukesha, Wis.

Application January 17, 1941, Serial No. 374,840

1 Claim. (Cl. 154—50)

This invention pertains primarily to a pliable packaging wrapper for articles such as food products, and more particularly frozen meats, fish, and the like, although the same may be utilized to advantage in wrapping other commodities in which it is desired to exclude air and moisture, or prevent seepage of liquid through the wrapper.

Heretofore in accomplishing the foregoing, it has been common practice to utilize waxed or moisture-resisting paper. While this method served its purpose insofar as protecting the commodity, it was found to be objectionable in that the waxed or treated wrapper presented a smooth, slippery surface difficult to handle, and which did not lend itself to satisfactory marking or writing on the surface.

Therefore, in many instances, a separate, unwaxed outer wrapper has been employed, but this required two wrapping operations, and did not provide an insulating air space between the wrappers, due to the porous character of the untreated outer sheet.

Also, wrappers consisting of two superimposed sheets, comprising a waxed inner sheet and an untreated outer sheet, have been tried, but for the reasons enumerated above, the same proved to be impractical.

Other types of wrappers attempted have been expensive, and, therefore, prohibitive for general marketing purposes.

To overcome the foregoing objections, the primary object of the present invention resides in the provision of a package wrapper, which can be produced at reasonable cost; which excludes air and moisture from the goods, or serves to retain moisture contained in the commodity; which provides a closed, insulating air space to retard change in temperature of the commodity; which can be quickly applied with minimum effort; which presents a non-slippery surface satisfactory to handle; and which may be marked or written upon for identification.

Incidental to the foregoing, a more specific object of the invention is to provide a package wrapper consisting of two pliable superimposed sheets of paper, the inner sheet being coated or treated on both surfaces with an impervious moisture resisting material, and the other sheet being treated with said material on its inner surface only.

A still further object resides in forming spaced bonds between the inner and outer sheets to provide closed air spaces between the sheets, and at the same time hold them in alinement during the wrapping operation.

Another object of the invention resides in the novel method of forming the wrapper, whereby the cost of production is reduced to a minimum.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel method, construction, combination, and arrangement of parts, substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claim.

In the accompanying drawing is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

In the drawing:

Figure 1 is a fragmentary, plan elevational view of a wrapper constructed in accordance with the preferred form of the invention, parts being broken away and in section to more clearly illustrate structural details;

Figure 2 is a sectional view, taken on the line 2—2 of Figure 1;

Figure 3 is a diagrammatic view, illustrating one method of assembling the separate strips in accordance with the present invention;

Figure 4 is an exaggerated, fragmentary section, taken in the line 4—4 of Figure 3;

Figure 5 illustrates the initial step in forming the package for an article of food;

Figure 6 illustrates the second step, in which the ends of the wrapper are folded together to form a tight closure;

Figure 7 is an enlarged, fragmentary section, taken on the line 7—7 of Figure 6; and

Figure 8 illustrates the manner in which the edges of the wrapper are folded over to complete the package.

Referring now more particularly to the accompanying drawing, the numeral 1 designates generally a package wrapper constructed in accordance with one form of the present invention, and comprising inner and outer superimposed sheets 2 and 3, respectively, formed of pliable paper.

As best shown in Figure 4, the inner sheet 2 is provided with a moisture-resisting coating 4 upon both of its surfaces. This coating may be wax, oil, or of other impervious moisture-resisting material capable of melting when sub-

jected to heat. Should the sheet be run through a bath of wax or paraffin, which is a common method of waterproofing paper, naturally the paraffin in heated condition will substantially permeate the entire sheet, as indicated by the section lining in Figure 4.

The outer sheet 3 is provided with a coating 4, such as described, on its inner face only, to engage the coating on the inner sheet 2 when the two sheets are superimposed upon one another.

As shown in Figure 3, the inner and outer strips 2 and 3 may be wound on parent rolls 5, from which they are superimposed upon one another and passed between alined heated rollers 6. Preferably, a plurality of sets of rollers are employed to engage the superimposed strips at spaced intervals, causing the coatings 4 to be melted along longitudinal lines as the superimposed strips pass between the ironing rollers 6, to be rewound upon a bed roll 7.

In the preferred form of the invention, the longitudinal edges of the strips are fabricated or adhered together to form a confined air space between the sheets, the melted strips of coating flowing together to form bonds 8.

As shown in Figure 1, in the manufacture of the paper in the form of a ribbon with parallel sealed edges and intermediate sealed lines. But in practice, as best illustrated in Figures 5 to 8 inclusive, this trip or ribbon is cut into short sheets whereby the sealed seams are positioned transversely of the wrapper. This is a vital and important feature, whereby a plurality of dead air pockets transversely disposed surround the wrapped article and the end pockets, as shown in Figure 8, are formed by double folding of the sealed ends 8 of the wrapper. Hence the center air pocket completely encircles the wrapped article and the shorter end pockets, which are folded and sealed, although of a smaller area also completely surround the article being wrapped.

In packaging an article with the present wrapper, it is merely necessary to sever a desired length of wrapper and place the article A on the inner strip 2 in the manner shown in Figure 1. The ends *e* are then lapped over the article and folded a plurality of turns to provide a transverse, tightly closed seam *s*, as best shown in Figures 6 and 7.

The edges of the sheet, which have been sealed by the bonds 8 between the coated surfaces of the sheets, are then tucked inwardly and folded in the manner disclosed in Figure 8, all of which provides a tightly closed package in which a confined air space is provided between the inner and outer sheets, which serves as an insulation to retard change of temperature within the package, and because of the triple layers of coatings, not only is air excluded from the package, but also moisture contained within the package is prevented from seeping through the wrapper.

From the foregoing explanation considered in connection with the accompanying drawing, it will be apparent that a comparatively inexpensive and efficient wrapper has been provided which meets all requirements in marketing commodities, insofar as maintaining the desired condition of the goods, cost, and packaging operation.

I claim:

As a new article of manufacture, a flexible wrapper sheet comprising an outer sheet layer having its inner face wax coated, an inner sheet layer having both faces wax coated, and said sheets being bound together along spaced lines by heat treated seals at their edges and intermediate points to form a plurality of independently disposed dead air pockets.

JOHN FREDERICK PALMER.