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LAMINATED SHEET MATERIAL FOR PACKAGING MOISTURE-CONTAINING FOODS

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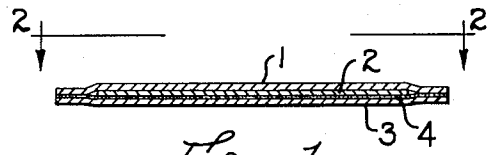


Fig. 1

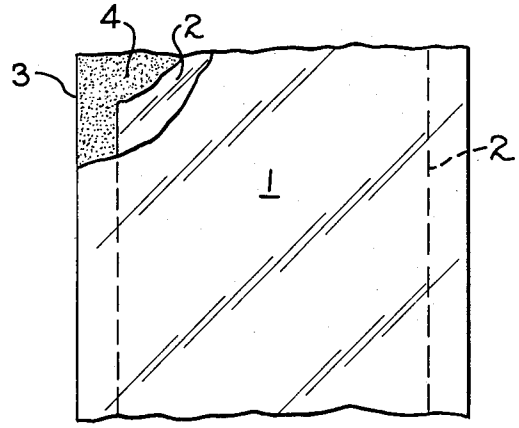


Fig. 2

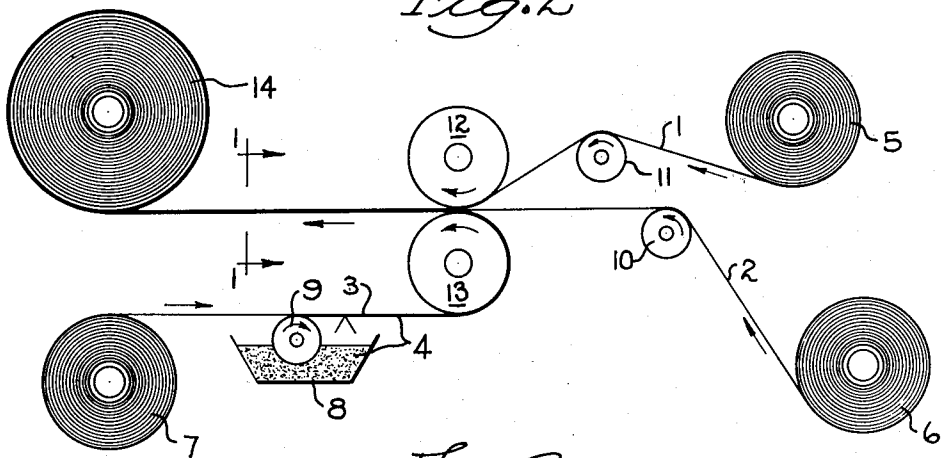


Fig. 3

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LAMINATED SHEET MATERIAL FOR PACKAGING MOISTURE-CONTAINING FOODS

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2 Claims. (Cl. 154—50)

This invention relates to laminated sheet materials for packaging moisture-containing foods such as smoked ham, smoked slab bacon, and the like.

Heretofore, the customary procedure in packaging smoked ham and the like has been to use three loosely superimposed and unadhered sheets requiring manual assembly prior to use. Numerous attempts have been made to combine the function of these sheets, either by substitution of equivalents or by combining the sheets themselves, into a single workable sheet. The relative failure of these attempts has resulted from the unfavorable comparison of cost of automatic assembly against the cost of conventional manual assembly at the time of wrapping. In other words, the advantage of simply adhering the three sheets in general relationship to one another prior to their use for wrapping has not appeared to entirely justify the cost of such assembly.

Attempts have also been made to improve not only the ease of handling of such a wrapper but also to improve its packaging function. Smoked hams, slab bacon, and similar products are subject to high and continuous loss of moisture if not protected from such loss. Although such protection would justify a higher price for the wrapper, the complex manufacturing techniques previously required to produce a wrapper of this type have resulted in a cost disproportionate to the added improvement.

My invention provides a laminated sheet material combining both facility of handling and the desired moisture barrier. My method of making these sheets provides a one-step operation, the various plies of the sheet being adhered together in a single stage and in a continuous web. By thus simplifying the manufacturing procedure, my sheet having the desirable features noted above may be produced at a cost far below that previously possible.

It is also necessary that a wrapper of this type be flexible for ease of forming around the product without bunching or substantial distortion, for the objects around which it is wrapped are ordinarily of non-uniform and uneven contour, and have a double-curved surface. My invention also provides this desired flexibility.

A wrapping sheet for smoked ham and similar material should provide four main elements having the following characteristics:

1. An inner greaseproof, moisture vapor-permeable element which resists the transmission of grease therethrough but allows the passage of moisture-vapor and moisture into the second member of the sheet;

2. An absorbent element which accepts any moisture coming to the surface of the product and permeating the inner element; this serves to prevent sliming and mold growth on the surface of the product, and also absorbs any grease which may pass through the first element.

3. An effective barrier to moisture-vapor and moisture which prevents excessive weight loss of the product and maintains the quality and fresh appearance of the product.

4. An outer strengthening element which provides the desired durability and resistance to puncture, this strengthening member also desirably having a surface on which

may be printed identifying and other indicia customarily used in the sale of the wrapped product.

My invention provides these features in a particularly attractive and conveniently usable form, and also provides the inexpensive and simple means of manufacture as noted above. Other objects and advantages of my invention will be readily apparent from the following description of the appended drawings, in which:

Figure 1 is a cross-sectional view of my sheet,

Figure 2 is a top plan view of a section of my sheet as taken from a roll thereof, taken along the line 2—2 of Figure 1, and

Figure 3 is a schematic side elevational view illustrating my method of manufacture of the sheet.

Referring first to Figures 1 and 2, it is seen that my wrapping sheet includes three plies. The inner ply 1, which lies adjacent the smoked ham or other material to be wrapped, comprises a grease resistant, moisture vapor-permeable sheet such as glassine, cellulose acetate, greaseproof paper, or the like. The intermediate sheet 2 comprises an absorbent, flexible sheet or layer of creped wadding, paper toweling material or the like. The outer strength-providing sheet 3 comprises a sheet of opaque material such as wet-strength kraft paper, greaseproof paper, parchment or similar material.

It will be noted that the intermediate sheet or layer 2 has a lesser width than the inner and outer sheets 1 and 3, so that a side margin of each of sheets 1 and 3 extends beyond the side boundaries of intermediate sheet 2. The inner surface of outer sheet 3 carries a flexible, continuous adhesive coating 4, by means of which the outer surface of intermediate sheet 2 is continuously adhered to sheet 3. The inner sheet or ply 1 is not adhered to intermediate sheet 2, but is adhered to outer sheet 3 along the side margins extending beyond the side boundaries of intermediate sheet 2. Thus, sheets 2 and 3, being continuously adhered together, tend to act as a single sheet, while inner sheet 1, being adhered only to sheet 3 at the side margins thereof, during wrapping operations tends to act as a separate sheet. This latter feature provides substantially greater flexibility than if the inner sheet were intimately adhered to sheet 2 over its entire surface, and results in substantial elimination of buckling and unsightly crinkling of the wrapping material when it is bound tightly around the sharp curvatures of the enclosed ham or other packaged product.

The adhesive 4 preferably is a material which provides an effective moisture vapor barrier, so that the adhesive provides the dual characteristics of means of adhesion of the various plies of the wrapping material and also provides a moistureproof layer in the most desirable relation to the sheet materials. Suitable adhesives would include amorphous waxes, polyethylene, and moisture resistant glues of conventional types.

In use, a selected length of my wrapping material is placed on a table or the like, with inner sheet 1 uppermost. The ham or other product is placed on the wrapping material, which is then wrapped closely about the product and held in place by string, tape or other suitable means.

Figure 3 illustrates a convenient method I have devised for manufacturing my wrapping material. The inner sheet or ply 1 is fed from an unwind or feed roll 5, the intermediate sheet or layer 2 from a similar roll 6, and the outer sheet 3 from a roll 7. The adhesive 4 is supplied from a conveniently-located tank 8, from whence it is picked up by a partially submerged adhesive roll 9 and applied to the under surface of sheet 3 as it travels over roll 9 as seen in Figure 3.

Sheets 1 and 2 may be guided by a set of rolls 10, 11 through a pair of rolls 12, 13, where the three sheets are bonded together in the manner explained previously by the pressure applied at the nip of these rolls 12, 13. The

multi-ply wrapping material thus formed may then be wound onto a wind-up roll 14 for storage and later unwinding therefrom in selected lengths for wrapping of the product to be packaged.

The simplicity and consequent low cost of this manufacturing operation will be readily apparent from Figure 3. This low cost method of manufacture provides a minimum cost wrapping material, with consequent enhancement of the probability of commercial success in the production and sale of the wrapper and the packaged product to the broad market.

While I have described but one embodiment of my invention, various modifications of the specific embodiment shown might readily be made without departing from the spirit of my invention. For example, conventional methods of applying the adhesive other than that described above might be substituted. It is therefore to be understood that no limitations upon my invention are intended except as specifically set forth in the appended claims.

I claim:

1. Laminated sheet material for packaging moisture-containing foods comprising an outer flexible sheet, having a flexible moisture-proof adhesive continuously applied to one surface thereof, an intermediate absorbent layer of substantially lesser width than said outer sheet, the intermediate layer by means of said adhesive being continuously adhered to said outer sheet with a side margin of said outer sheet extending beyond each side edge of the intermediate layer, and a moisture vapor-permeable, grease resistant, flexible inner sheet of substantially the same width as said outer sheet, the inner sheet by means of said adhesive being adhered along both side margins thereof to the side margins of said outer sheet extending beyond the side edges of the intermediate layer.

2. Laminated sheet material for packaging moisture-containing foods comprising an outer flexible sheet having a continuous wax-composition coating applied to the inner surface thereof, an intermediate absorbent layer of substantially lesser width than said outer sheet by means of said coating continuously adhered to said outer sheet with a side margin of said outer sheet extending beyond a side edge of said intermediate layer, and a moisture vapor-permeable, grease resistant, flexible inner sheet of substantially the same width as said outer sheet, the inner sheet by means of said adhesive being adhered along a side margin thereof to the side margin of said outer sheet extending beyond the side edge of the intermediate layer.

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