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FOOD PACKAGE

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2 Claims. (Cl. 206—46)

This invention relates to the packaging of foodstuffs which rancidify and spoil on exposure to light, and has particular reference to a foodstuff package wrapped with a translucent material which preserves the contents from rancidification, while permitting them to be seen. Specifically, this invention comprises a foodstuff package wrapped with a translucent material comprising a transparent base material, and a coating of blushed film of cellulose derivative thereon.

The phenomenon of "blushing" is one well known to the coating industry. While unpigmented coating compositions which dry by evaporation of solvent (lacquers) generally dry down to smooth homogeneous transparent films, it is possible to produce non-homogeneous films by disturbing the solvent balance so that the binder is insoluble in the solvent during some portion of the film-forming operation, and remains insoluble thereafter. In such cases, the binder precipitates out in the form of very small discrete particles of transparent material, with air between the particles; the resultant film is translucent or opaque, appears white to the eye and is generally matte. Nitrocellulose, other cellulose derivatives and resins all can be made to yield such films, either by proper choice of organic solvents, or by judicious use of water in the film; the methods of producing such films are well known in the art, largely because a knowledge of the conditions which favor blushing permit formulators to avoid this generally undesirable phenomenon. This type of matte translucent opaque white film has heretofore been used to coat cloth and paper, to produce tracing cloth.

In my co-pending application, Serial Number 75,570, filed April 21, 1936, I have disclosed the possibility of controlling the solvent balance in such compositions so that the film deposited during the early stages of drying is clear and transparent, while the film deposited in the late stages is blushed and opaque, whereby a blushed film is obtained enclosed in a glossy envelope, yielding a glossy opaque finish for paper and the like.

I have discovered that such blushed films, when applied to transparent sheet material such as Cellophane, produce translucent white sheeting which is substantially opaque to the light rays, which tend to rancidify food, but which permits the examination of articles held immediately against the back of the sheet. It is thus possible to pack foodstuffs which tend to rancidify easily in this type of wrapping, and obtain both the advantages of visibility and the resistance to rancidity, which has heretofore been obtainable only by the use of metal foil wrappings.

My novel wrapping material not only protects the foodstuffs from rancidity, but provides a package which is impervious to dust and moisture, and which may be readily decorated to provide a handsome appearance. By using an ordinary white paper box with an open window, and tightly wrapping it with Cellophane coated with a blushed film, the contents are visible through the window, while the box appears unusually white due to the super-imposition of the translucent wrapping; and unusual results may be obtained by printing on the printed box, or on the wrapper, or on both.

Typical examples of my invention are as follows:

Example I

	Parts by weight
SS nitrocellulose 5 sec. (wet with 30% butyl alcohol)	13.8
Acetone	5.0
Methyl alcohol (C. P.)	74.4
Water	4.2
Glycerine	2.6
	100.0

This lacquer was applied as a coating to Cellophane sheeting, to obtain a glossy translucent very white product.

Biscuits made with a shortening that rancidifies easily were wrapped in this product, in clear Cellophane, in ordinary white wrapping paper, and in paper-back aluminum foil—and all four packages were exposed to a mercury vapor lamp, at a distance of two feet, for thirty minutes. The biscuits in the paper and clear Cellophane packages had rancidified badly, while the coated Cellophane and the metal foil were satisfactory.

Example II

	Parts by weight
¼ sec. SS nitrocellulose (wet with 30% butyl alcohol)	17.0
5 sec. SS nitrocellulose (wet with 30% butyl alcohol)	5.0
Butyl stearate	1.5
Cocoanut oil, treated ("Wecoline plasticizer")	2.7
Ethyl acetate	24.0
Toluol	28.9
Xylol	20.9
Total	100.0

This lacquer was likewise applied to Cello-

phane, and the Cellophane tested for resistance to rancidification, with the same results as in Example I.

Example III

	Parts by weight
¼ sec. SS nitrocellulose (wet with 30% butyl alcohol)	19.0
5 sec. SS nitrocellulose (wet with 30% butyl alcohol)	5.7
Butyl stearate	2.4
"Wecoline"	4.3
Acetone	20.6
Toluol	38.0
Xylol	10.0
Total	100

This material was applied to a transparent waxed glassine paper, with results similar to those in Example I.

The same resistance to rancidification is observed with transparent materials which are coated with matte blushed films. In such cases, however, the lacquer films are permeable, and the moisture resistance imparted by the glossy blushed films is not obtained. Furthermore, the matte lacquer is somewhat rough, so that there is a customer resistance not obtained with the gloss lacquer. For these reasons, I prefer to use the glossy blushed lacquer films.

Example IV

Similar results may be obtained by using blushing lacquers employing two or more film forming compositions, as described in my copending application, Serial Number 239,508, filed November 8, 1938. Such a lacquer is the following:

	Parts by weight
Cellulose acetate (2–6 sec. viscosity)	12.0
½ sec. RS nitrocellulose (wet with 30% denatured alcohol)	6.0
Acetone	34.5
Ethyl alcohol	30.5
Methyl abietate	9.0
Dibutyl phthalate	4.0

This lacquer has unusually good film characteristics when applied to transparent sheeting.

I believe blushed films prevent the rancidification of foodstuffs by filtering out the radiations which particularly cause rancidity, as well as a substantial portion of the light rays.

I claim:

1. A foodstuff container providing for inspection of the contents while protecting them from rancidity, the portion providing for inspection comprising a translucent sheet material consisting of transparent regenerated cellulose coated with a blushed lacquer film.

2. A foodstuff container providing for inspection of the contents while protecting them from rancidity, the portion providing for inspection, comprising a translucent sheet material impenetrable by rancidity-producing rays, consisting of a transparent foil penetrable by rancidity-producing rays, coated with a blushed lacquer film which renders the sheet translucent to radiations in the visible spectrum, and impenetrable by rancidity-producing rays.

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