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LACQUER

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My invention relates to an improved covering material either in the form of a film, sheet or fabric, or flowable, as a lacquer, paint, or coating, employing as one ingredient a cellulose derivative.

Primarily, the invention contemplates the use of a dyed cellulose derivative or ester, as distinguished from conventional processes wherein the cellulose material is subjected to a solvent, carrier or vehicle, and thereafter an appropriate quantity of pigment or other coloring supplied.

An object of the invention is to use a preliminarily dyed cellulose ester or derivative, that is, an ester which has been dyed either in a moist or wetted state, or in a substantially dry condition.

To this end, and in accordance with the present invention, the cellulose derivative or ester freed from excess chemicals and preferably moistened or wetted, is provided with a coating or impregnation of the selected dye, and is thereafter made into a solution or flowable mass, or into a film or sheet, with the result that a coating or sheeted material is obtained possessing excellent body, strength and uniform color and, in the case of flowable coatings, as well as in the film or sheeted condition, the tensile strength and flexibility produced is remarkable.

In carrying out the invention, a preliminarily dyed cellulose ester, such as nitrocellulose or cellulose acetate, that is to say, a cellulose derivative or ester, as obtained from a nitration, acetylation or other process after removal of excess chemicals and in moist or substantially dry condition and in which the fibres or flakes so obtained are coated and impregnated with a suitable dye, is employed. By moistening is meant a wetting with alcohol or water up to 30% by weight of the cellulose derivative, in lieu of alcohol or water other materials may be employed.

Any suitable dye may be used for dyeing the moistened or dry cellulose ester, and while I prefer well known organic dyes or intermediates, obviously there are numerous inorganic substances which are quite useful and are employed, as occasion requires.

The dyeing may take place by submitting the cellulose derivative to a suitable dye bath or the dye may be sprayed upon a constantly moving or agitated mass of the cellulose.

A further feature of the present invention resides in the fact that, since less pigment is necessary than with conventional lacquers, a greater amount of the cellulose body can be employed in the carrier and since the cellulose fibres are them-

selves thoroughly coated and impregnated with the dye, the resultant lacquer or varnish having this augmented cellulose content presents a decided improvement in wearing qualities and resistance to exterior conditions than has heretofore been obtained.

In using the preliminarily dyed cellulose derivative or an undyed cellulose derivative to form films, sheets or fabrics, the material is preferably moistened with water, alcohol or other materials to an extent sufficient to permit formation of the strips after the manner of paper by subjecting the material to the action of a beater, passing it over a Fourdrinier machine, and rolled as required. The film or sheet is but partially dried and the web so produced in slightly moist state is then sprayed with or run through a bath of any one of a number of plasticizers, among which may be mentioned camphor, castor oil, linseed oil, and oxygenated derivatives of the turpenes.

The web so treated is then subjected to the volatiles or vapors of any one of a number of organic materials, such as a mixture of butyl and ethyl acetate, acetone, amyl acetate, or in fact any other solvents for the cellulose derivatives or esters. This treatment clarifies the sheet, and it is then allowed to harden.

The resultant sheet, film, or fabric is an excellent wrapper or covering possessing unusual tensile strength combined with flexibility. It is not necessary to clarify the film in all cases, but this step produces a completely transparent sheet which, in many cases, is desirable.

It will be understood that the coating of the present invention or the sheeted product thereof is quick drying and quick hardening, and it will be understood that while I have mentioned cellulose esters of the class of cellulose acetate and cellulose nitrate, that other similar materials may be employed.

The invention is susceptible of modification and change, and such alterations are comprehended within the scope of the appended claims.

I claim:

1. The process of preparing a sheeted product, which comprises dyeing a mass of cellulose derivative which has been previously moistened, forming a web therefrom, partially drying the sheet, passing the web through a plasticizer and subjecting it to a gaseous treatment to clarify the resultant sheet, and permitting the sheet to dry.

2. The process of preparing a colored sheeted product which comprises preparing a mass of cellulose ester, spraying the mass with a suitable

dye, subjecting the mass in moist condition to the action of a beater, forming the pulp-like mass into a paper-like web, and passing the web through a plasticizer.

- 5 3. The process of preparing a sheeted product comprising preparing a wet mass of cellulose derivative material, forming a paper-like web therefrom, treating the web with a plasticizer, and allowing the web to harden.
- 10 4. The process of preparing a substantially transparent sheeted product comprising preparing a wet mass of cellulose derivative material, forming a paper-like web therefrom, treating the web with a plasticizer, treating the web with

a clarifying agent, and allowing the web to harden.

- 5 5. The process of preparing a substantially transparent sheeted product comprising dyeing a mass of cellulose derivative material, clarifying and forming a web therefrom, treating the web with a plasticizer and allowing the web to harden.

6. The process of preparing a sheeted product comprising preparing a dyed wet mass of cellulose derivative material, forming a paper-like web therefrom, treating the web with a plasticizer, and allowing the web to harden.

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