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PROCESS FOR THE MANUFACTURE OF
UPHOLSTERING MATERIAL

Conrad Herrmann, Wuppertal-Elberfeld, Germany, assignor to North American Rayon Corporation, New York, N. Y., a corporation of Delaware

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5 Claims. (Cl. 154—2)

The present invention relates to the manufacture of material of artificial origin but more specifically has for its purpose to devise a process for the manufacture of material suitable for use in upholstering.

Films, particularly those of cellulosic origin, are cut into fine ribbons of approximately the thickness of horse hair. However, this ribbon-like horse hair cut from an ordinary cellulose film is not suitable for upholstering and filling purposes, since there is no crimping or fullness in the material. It is of course possible to subject the ribbons thus produced to well known crimping processes, for example, as carried out with respect to horse hair and similar animal hair as well as other upholstering material. However, it has been found that the crimping effect, particularly with ribbons, is not sufficiently lasting in effect.

It is therefore one of the objects of the present invention to produce a sufficiently durable crimping of the cellulose ribbons for upholstering material. This and other objects will in part become obvious and in part be pointed out in the following specification and appended claims.

The invention is based upon the well known fact that if two differently shrinking cellulose films are glued together, the combined product, after remoistening or steaming, has a tendency to shrink easily whereby the cellulose film having a higher shrinkage capability forms the inner layer while that having a lower shrinkage capacity forms the outer layer of the combined product.

This novel process utilizes this generally known fact and combination by means of gluing two different cellulose films which possess different shrinkage capabilities. In carrying out this process a cellulose film which has been greatly stretched during its manufacture is combined with the cellulose film which has been produced with a less amount of longitudinal stretch.

A further step in the process may consist in the use of a film, spun, for example, from a viscose solution, then washed and after-treated but not dried, and that this film is then combined with another cellulose film which is either produced from the same solution or any other cellulose solution but which has already been dried. It is also possible to produce a combined product in such a manner that a film made from a viscose or cuprammonium solution is combined in the usual manner by any suitable means with another film-like product, such as, for example, an acetate film, or a sheet of kraft brown paper. The best results, however, are obtained in all in-

stances if films of different thickness are combined with each other.

The gluing of the cellulose films may be carried out in any suitable manner whereby the adhesion power of the films which have been swelled up to a high degree and the simultaneous use of pressure by means of pressing rollers and heat may be utilized. This step in the process may be carried out by using heated press rollers so that the pressure and heat are obviously applied simultaneously. It is further possible to use special gluing mediums, such as viscose solutions or cuprammonium solutions, also other gluing agents, for example, of animal nature, such as casein preparations.

The glued films are then suitably dried, preferably in a continuous operation.

In accordance with one form of the invention, the combined films thus produced can be then cut into small ribbons in a longitudinal direction.

One method of cutting the films into ribbons may be accomplished by rolling the combined films into a tight roll and then cutting into ribbons cross-wise, with respect to the axis of the roll. Whichever method of cutting is used, the ribbons may be subjected to a swelling after-treatment, for example, with water or steam, in order to release the different shrinkage capabilities of the individual portions of the ribbons and to allow the spiral-like crimping action to take place, whereupon the ribbons are dried and hardened.

In order to produce a material which greatly resembles upholstering materials of natural fibers and their useful properties, the finished ribbons may be impregnated with substances which increase the water repelling characteristics of the finished material, making the said material more impenetrable by water. This impregnation may also be carried out in connection with the shrinkage and/or swelling process, or in connection with the gluing of the elementary films. Substances suitable for this purpose are those usually employed in the water-proofing of cellulose films, for example, ester lacquers, nitrocellulose, paraffin, mineral waxes and their finishing products, resins of all kinds, metal soaps, etc.

If impregnating agents are used which prevent, to a great degree, the swelling and shrinking of the film parts, it is advisable to carry out the impregnation of the upholstering material only after the spiral formation has taken place in the shrinking process through the after-swelling.

It is obvious that many variations may be made in the process described herein while utilizing the

invention of the present application and it is not intended to restrict the invention to the particular descriptions or examples given herein. The terms used in describing the invention have been used in their descriptive sense and not in terms of limitation, and it is intended that all equivalents thereof be included within the scope of the appended claims.

What is claimed is:

- 10 1. In a process for the manufacture of spiral-like upholstering material of cellulose films, the steps comprising combining a plurality of films having different shrinkage capabilities whereby a single composite laminated film is formed, dividing the thus formed film into ribbons, sub-
15 jecting the ribbons thus formed to a wetting step, and then subsequently drying the ribbons.

- 20 2. In a process for the manufacture of spiral-like crimped material from cellulose films, the steps comprising combining a plurality of cellulose films having different shrinkage capabilities whereby a single laminated film is produced, rolling the laminated film into a roll, cutting the rolls

perpendicular to the axis of the said rolls, whereby ribbons are produced, wetting the said ribbons, and thereafter drying the ribbons.

3. In a process of the class set forth, the steps of combining a dry cellulose film with an undried cellulose film to form a single laminated film, cutting said laminated film into fine ribbons, causing said ribbons to shrink by means of moistening or steaming, impregnating said ribbons, and then drying them.

4. In a process of the class set forth, the steps of combining two cellulose films of different thickness to form a composite film, cutting said composite film into fine ribbons, wetting, impregnating and drying said ribbons.

5. In a process of the class set forth, the steps of combining a viscose cellulose film with a cuprammonium cellulose film to form a laminated film, cutting said film into fine ribbons, causing said ribbons to shrink by wetting and then drying the ribbons.

CONRAD HERRMANN.