

UNITED STATES PATENT OFFICE.

LEONHARD LEDERER, OF SULZBACH-OBERFALZ, GERMANY.

PROCESS OF PRODUCING ACETYL-CELLULOSE-COATED MATERIAL.

954,310.

Specification of Letters Patent.

Patented Apr. 5, 1910.

No Drawing. Original application filed May 29, 1902, Serial No. 109,566. Divided and this application filed March 29, 1905. Serial No. 252,673.

To all whom it may concern:

Be it known that I, LEONHARD LEDERER, Ph. D., a citizen of the Empire of Germany, residing in Sulzbach-Oberfalz, in the Kingdom of Bavaria, Germany, have invented a new and Improved Process of Producing Acetyl-Cellulose-Coated Material, of which the following is a specification:

This invention relates to the production of material, such as yarns, fabrics, paper and the like, also manufactured cellulose, having a surface-coating of acetyl-cellulose, this being a divisional application of my application Serial No. 109,566, filed May 29, 1902.

The invention consists in the process hereinafter described, which comprises the steps of subjecting a body containing cellulose to the action of an acetylizing reaction-mixture until a film of acetyl-cellulose is formed upon the surface of the material, then discontinuing the action of the reaction mixture, and lastly removing the acid by washing with water.

The invention consists further in the new product thus produced, said product consisting at its interior of cellulose or a body containing cellulose and having a surface-film of acetyl-cellulose.

It is desirable for many purposes to partially acetylate cellulose and bodies containing cellulose, such as yarn, fabrics, paper or the like, so that the particular object treated shall be provided with a surface-layer containing acetyl-cellulose, while still containing at its interior unaltered cellulose. For obtaining this result, the cellulose or bodies containing cellulose are immersed in an acetylizing reaction-mixture and allowed to remain therein for a short time, so that an acetylation through the entire mass of cellulose cannot take place. The bodies so treated are thereby provided only with a thicker or thinner surface-film of acetyl-cellulose, according to the length of time during which they are subjected to the action

of the reaction-mixture. The bodies are then washed with water. For instance, a fabric containing cellulose is immersed in acetic anhydrid to which about .5% sulfuric acid has been added, and allowed to remain in said solution for about ten minutes. The fabric thus provided with a more or less thick surface-coating of acetyl-cellulose is then removed from the solution and freed from the absorbed acid by washing with water.

As examples of the application of the process may be mentioned the production of waterproof yarns and textile fabrics, imparting a gloss to fabrics, and the preparation and improvement of yarns and fabrics before dyeing them.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The herein described process of producing acetyl-cellulose coated material, which consists in subjecting a body containing cellulose to the action of an acetylizing reaction-mixture until a film of acetyl-cellulose of the desired thickness is formed thereon, then discontinuing the action of said reaction mixture, and lastly removing the acid by washing with water.

2. The herein described process of producing acetyl-cellulose coated material, which consists in subjecting a body containing cellulose to the action of a solution of acetic anhydrid and sulfuric acid until a film of acetyl-cellulose of the desired thickness is formed thereon, then discontinuing the action of said solution, and then removing the acid by washing with water.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

LEONHARD LEDERER.

Witnesses:

WALTHER DÖHT,
OSCAR BOCK.