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METHOD OF PRECIPITATING ARTIFICIAL THREADS, RIBBONS, FILMS, AND THE LIKE FROM VISCOSE.

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To all whom it may concern:

Be it known that I, ADOLPH KÄMPF, a citizen of the Republic of Germany, and residing at Premnitz, Westhavelland, Germany, have invented certain new and useful Improvements in Methods of Precipitating Artificial Threads, Ribbons, Films, and the like from Viscose, for which I filed an application in Germany June 8, 1921, and of which the following is a specification.

The present invention relates to methods of spinning artificial threads, ribbons, films and the like, from viscose.

As every viscose expert knows, from experience and from literature, a good precipitating bath for viscose must comply with the following requisites.

On the one hand, the viscose must not be decomposed too directly, as the reformed cellulose or hydrate cellulose would then be exposed to too strong chemical action and the reformed oil would then have time to set in hard, thick lumps. On the other hand, the precipitating bath must reform the cellulose or hydrate cellulose so completely from the colloidal solution that the cellulose parts contained in the viscose which offer the greatest resistance are entirely converted from the state of a mother-water into an oil, so that by proper washes, which attack the cellulose itself as little as possible, the precipitated hydrate cellulose is obtained as non-adhering thread, which is as solid as possible.

It has been found that the requisites for a precipitating bath are to a great extent complied with by using sulphonic acids of the products of condensation (and, if necessary, mixed with such of their salts as are soluble in water) obtainable by sulphonating the condensation products of phenols with aldehydes, ketones and other substances having molecular bodies of aldehydic and ketonic character, especially ketoses, aldoses and the various hydro-carbons from which such higher molecular bodies can be made. These substances all have the aldehyde reaction.

It has been found that these bodies, which heretofore have enjoyed a certain amount of popularity as artificial tanning materials, are also very useful for spinning-bath purposes. In certain cases they may be mixed with given quantities of pure mineral acids and salts of such mineral acids, or salts of the sulphonic acids themselves. Using such baths, in particular, it is possible to spin not only viscoses of various degrees of ripeness, but also entirely unripened viscose, that is, fresh viscose from unripened alkalicellulose. The artificial threads that are spun with the aid of baths of this character fulfill every requisite demanded of them in their structure and, accordingly, in their other properties also, such as stability and lustre.

Example.

A spinning bath consisting of 10% sulphuric acid, 8% neradol, 10% sodium sulphate and 72% water, is used for making the finest viscose threads out of unripened viscose. The temperature of the bath is about 18° and the length of the precipitating bath about 40 cms., with normal drawing-off speed. The threads show, when used as artificial silk, high lustre and solidity.

Having now more fully described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is:

1. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product.

2. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product obtained by sulphonating the condensation product of phenol with aldehyde.

3. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting the viscose into an aqueous solution of a sulphonic acid of a condensation product obtained by sulphonating the condensation product of phenol with a substance having an aldehyde reaction.

4. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product obtained by sulphonating the condensation product of phenol with a substance having a molecular body of aldehydic character.

5. A method of spinning artificial threads, films, ribbons and the like of viscose com-

prising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product obtained by sulphonating the condensation product of phenol with a high molecular hydro-carbon forming a compound of aldehydic character.

6. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product obtained by sulphonating the condensation product of phenol with a high molecular hydro-carbon forming a compound of character having an aldehyde reaction.

7. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of sulphonic acids of condensation products obtained by sulphonating the condensation products of phenols with aldehydes, ketones, aldoses, ketoses and higher molecular hydrocarbons forming these bodies.

8. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product, the said aqueous solution containing one or more mineral acids.

9. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product, the said aqueous solution containing one or more salts of the said sulphonic acid.

10. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting viscose into an aqueous solution of a sulphonic acid of a condensation product, the said aqueous solution contining one or more mineral acids and one or more salts of the said mineral acids.

11. A method of spinning artificial threads, films, ribbons and the like of viscose comprising squirting unripened viscose into an aqueous solution of a sulphonic acid of a condensation product, the said aqueous solution containing one or more mineral acids.

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Witnesses:
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