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EMBODIMENT IN THE PROCESS FOR MANUFACTURING ARTIFICIAL TEXTILE FIBRES FROM ANIMAL CASEIN

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The present invention has for its object an embodiment in the process for manufacturing artificial textile fibres from animal casein.

The process according to the invention includes (1) spinning filaments from an alkaline solution of animal casein by passing the solution through spinning dies immersed in a coagulating bath consisting of an aqueous solution of acid and soluble salts, the bath having a density above 1.180 (thousand hundred eighty) and a content of acid not less than the equivalent of 25 (twenty-five) grams of sulphuric acid per litre of bath, while the temperature is maintained not below 30° C. and (2) rendering the filaments insoluble in a bath of formaldehyde, to which soluble salts have been added.

The invention also includes (1) spinning filaments from an alkaline solution of casein by passing the solution through spinning nozzles immersed in a coagulating bath containing the residues of the coagulating baths employed in the manufacture of rayon from viscose (cellulose xanthogenate), said residues having a density above 1.180 (thousand hundred eighth) and an acid content not less than the equivalent of 25 grams of sulphuric acid per litre of bath, while the temperature is maintained not below 30° C. and (2) rendering the filaments insoluble in a bath of formaldehyde, to which soluble salts have been added.

The invention will be now explained with reference to the example of carrying out into practice.

In the factories which produce rayon by the viscose system (cellulose xanthogenate), a considerable quantity of residue from the coagulation bath is wasted. According to the present invention research has been conducted into the

possibility of employing this residue for the coagulation of the casein fibres. The residue is of a lower concentration than that in a normal coagulation bath, that is, it contains less acid and less sodium sulphate.

It has been found that said residue bath can be used provided that it has a density not below than 1.180 (thousand hundred eighty) and a sulphuric acid content not below than 25 (twenty five) grammes per litre of the bath. Uniform spinning of the alkaline solutions of casein is effected with such a bath, but the fibres stick to one another, thus rendering the product un-serviceable, unless they are immediately immersed in a sodium chloride solution, to which preferably aluminium salts and formaldehyde have been added. Instead of sodium chloride, solutions of salts of alkaline metals or of alkaline earth metals could be applied; but the cost of the process would be increased, and the final product be of less value.

Other baths can be employed for the coagulation of the casein fibres, having a density not below than 1.180 (thousand hundred eighty) and a sulphuric acid content not below than 25 gr. (twentyfive) of sulphuric acid per litre of the bath, the sodium sulphate being replaced by other soluble sulphates or chlorides such as zinc sulphate, ammonium sulphate, ammonium chloride, etc. separately or mixed with one another.

The further particulars of the manufacturing process of the textile fibres of casein may be modified in various ways without departing from the spirit of the invention.

Of course the invention covers also the textile fibres of casein obtained by the indicated process.

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