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PREPARATION OF NEUTRAL OR ALKALINE PRECIPITATING LIQUIDS

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It is known that in the manufacture of artificial silk the action of dissolved gases in precipitating baths is detrimental to the formation of the thread. Especially when using running liquids the gas bubbles formed cause a breakage of the fibrillas. To avoid this it was suggested to withdraw the gases entirely from the liquid by means of evacuation. Trials have been made to do so by heating the precipitating baths, however in order to withdraw all or at least the greater portion of the dissolved gases the bath had to be heated continuously to a high temperature. For instance, to withdraw 50% of the dissolved gases the liquid has to be heated up to 80° C. which however may prove to be disadvantageous.

Now it has been found that a precipitating bath consisting of meteoric water, which always contains dissolved air and carbonic acid can be used by adding a small quantity of alkali hydroxide and alkali hydrosulfite, which bind the free carbonic acid and the dissolved oxygen. Experience shows that when working according to this method generally two-thirds of the total quantity of the dissolved gases can be neutralized. The part of the dissolved gas still remaining consists in the main of nitrogen and is not detrimental in the spinning process. If for instance well water, containing 42 cubic centimetres dissolved gas to the liter (the dissolved gas consisting of 45% carbonic acid, 17% oxygen and 38% nitrogen) is combined in the reserve tank with 0,18 grammes caustic soda and 0,09 grammes hydrosulfite of sodium ($Na_2S_2O_4$) to the liter, this solution can be well used as a precipitating bath. Variations in the combination of the gases dissolved in water are quite natural; by means of the extreme proportions attained however a medium can be determined and the additions adjusted accordingly. A precipitating bath thus prepared is practically neutral, it can however be changed into an alkaline bath in any desirable manner or any desirable addition can be given excepting means of an acid character.

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

1. A process for preparing a precipitating bath of the kind described, which comprises mixing with the precipitating bath a caustic alkali to remove carbon dioxide and an alkali metal hydro-sulfite to remove the dissolved oxygen from the precipitating bath.

2. A neutral or alkaline precipitating solution of the kind described substantially free from carbon dioxide and oxygen and containing a small quantity of the reaction products of alkali hydroxide and alkali hydrosulfite with carbon dioxide and free oxygen in the water employed for precipitation.

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