

UNITED STATES PATENT OFFICE.

EDOUARD PAUL SISLEY, OF LYON, FRANCE, ASSIGNOR TO SOCIETE CHIMIQUE DES
USINES DU RHONE, OF PARIS, FRANCE.

PROCESS FOR DYEING CELLULOSE ACETATE.

No Drawing.

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To all whom it may concern:

Be it known that I, EDOUARD PAUL SISLEY, residing at Lyon, France, a citizen of the Republic of France, have invented certain new and useful Improvements in Processes for Dyeing Cellulose Acetate.

Acetate of cellulose not being permeable to water it is difficult to dye threads, films or other articles made with this material by the usual processes as the dyeings obtained are light and badly united.

I have discovered that articles made with cellulose acetate can be adapted to be dyed by treating them in a bath of triphosphate of sodium.

Example.

The cellulose acetate artificial silk is slowly agitated for $\frac{3}{4}$ hour to one hour in a bath containing per litre 25 grammes of crystallized phosphate (dibasic) of sodium, and 5 c. cm. of caustic soda solution 36° Baumé. The bath is maintained between 60° and 70° C. during the whole duration of the operation.

The silk is then thoroughly washed and dried, the loss of weight being 6 per cent.

The process can be applied to pure cellulose acetate fabrics or to mixed fabrics such as cellulose acetate silk and natural silk, or cellulose acetate silk and wool.

The process which is the object of this invention may be combined with the dyeing itself so that the whole operation takes place in a single bath.

The cellulose acetate treated with tribasic phosphate can also be mordanted with tannin and tartar emetic (double tartrate of antimony and potassium) before being placed into the dyeing bath.

What I claim and desire to secure by Letters Patent is:—

1. A process for preparing cellulose acetate for dyeing consisting in treating the cellulose acetate articles with a tribasic phosphate of sodium solution.

2. A process for preparing cellulose acetate for dyeing, consisting in treating cellulose acetate articles with a solution of tribasic phosphate of sodium produced in the bath itself.

3. A process for preparing cellulose acetate for dyeing, consisting in treating the cellulose acetate articles with a solution of tri-basic phosphate of sodium produced in the bath itself by the reaction of crystallized di-basic phosphate of sodium on caustic soda.

4. A process for preparing cellulose acetate for dyeing, consisting in treating the cellulose acetate articles in a bath containing per litre 25 grammes of crystallized di-basic phosphate of sodium and 5 c. cm. of caustic soda solution 36° Baumé.

5. A process for preparing cellulose acetate for dyeing consisting in treating the cellulose acetate articles in a bath containing per litre 25 grammes of crystallized (dibasic) phosphate of sodium and 5 c. cm. of caustic soda solution 36° Baumé the bath being maintained at a temperature of 60° to 70° C. during the treatment.

6. A process for preparing cellulose acetate for dyeing, consisting in slowly agitating the cellulose acetate articles for $\frac{3}{4}$ to one hour in a bath containing per litre 25 grammes of crystallized (dibasic) phosphate of sodium and 5 c. cm. of caustic soda solution 36° Baumé, the bath being maintained at a temperature of 60° to 70° C. during the treatment.

7. The process of dyeing cellulose acetate articles, which consists in treating the articles with a tribasic phosphate of sodium solution to which the dye has been added.

8. The process for preparing cellulose acetate for dyeing which consists in treating cellulose acetate articles with a solution of sodium phosphate.

9. The process for preparing cellulose acetate for dyeing which consists in treating cellulose acetate articles with a solution of sodium phosphate in the presence of caustic soda.

10. The process of dyeing cellulose acetate articles which consists in treating the said articles with a solution of sodium phosphate and caustic soda to which a dye has been added.

In testimony whereof I have signed my name to this specification.

EDOUARD PAUL SISLEY.