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PROCESS OF PRODUCING EFFECTS ON TEXTILE MATERIAL

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5 Claims. (Cl. 8—114.6)

The present invention relates to a process of producing effects on textile material and the material thus obtained.

The present invention relates to a process of producing effects on textile material from cellulose fibers, i. e. fibers of natural or regenerated cellulose or on textile material containing moreover cellulose derivatives, such as cellulose acetate, cellulose propionate or other organic esters or ethers of cellulose or animal fibers such as wool or silk by partial destruction, especially local destruction of the material. The reaction used for this destruction is similar to those known as carbonizing. It is an object of the present invention to produce effects on textile materials by completely removing the cellulosic fibers without alteration in the strength of the animal fibers or of the cellulose derivatives. It is a further object of the invention to apply to the textile material a carbonizing agent which has hitherto not been used in the process of producing effects on fabrics and which proves great advantages in comparison with the processes known up to now.

Various processes are already known for locally treating tissues consisting of natural or regenerated cellulose with an agent capable of splitting off acid, such as aluminium sulfate, aluminium chloride or sodium bisulfate, subjecting the impregnated tissue to the action of dry heat and then eliminating the destroyed fibers by washing and a subsequent mechanical treatment such as beating, rubbing or brushing. For carrying out said process, special devices are required owing to the temperatures to be applied which are considerably superior to the temperatures generally applied in the textile industry; furthermore the indispensable mechanical treatment is not only complicated and time-consuming, but readily causes the tissue, and particularly sensitive tissue to be distorted or torn.

Now, we have found that for the application in the embroidery industry the dry heating to a raised temperature and the mechanical treatment of the tissue made from cellulose fibers or of the mixed tissue made from cellulose fibers and fibers of cellulose esters or cellulose ethers or animal fibers can be avoided by locally treating with organic sulfuric acid esters the tissue on which the design or effect is to be produced and then steaming it in the usual steaming devices. The parts of the tissue of natural or regenerated cellulose subjected to the action of the sulfuric acid esters are decomposed by said treatment so that they can already be washed out with cold or hot water. The parts of cellulose ester or cellulose ether of the tissue or the animal fibers are not destroyed.

As organic sulfuric acid esters there may be named ethanol sulfuric acid ester, butanol sulfuric acid ester, isoamyl alcohol sulfuric acid ester, dodecylalcohol sulfuric acid ester.

To produce local destruction of the textile material the organic sulfuric acid ester may be applied by means of a printing paste containing the usual thickening agents, such as tragacanth, a mixture of wheat starch and tragacanth, Senegal gum, British gum or a mixture of British gum and tragacanth.

To obtain colored designs dyestuffs suitable for cellulose esters and cellulose ethers or for animal fibers may be added to the printing pastes. Besides the pastes there may be printed on the tissue at the same time a paste containing vat-dyestuffs or acid sulfuric acid esters of vat-dyestuffs or other dyestuffs. For instance on machine printing, with one or several rollers vat-dyestuff pastes and with the last roller the paste containing the organic sulfuric acid ester may be applied to the tissue; said paste may at the same time contain for instance dyestuffs suitable for cellulose acetate. The material is then steamed as usual. A special operation for fixing the dyestuffs is not necessary.

Other usual ingredients may be incorporated with the printing pastes, for instance foam-preventing agents, such as pyridine, tributylphosphate or oil of turpentine.

The following examples serve to illustrate the invention but they are not intended to limit it thereto:

(1) A mixed fabric of viscous artificial silk and acetate artificial silk is printed with a printing paste having the following composition:

Ethanol sulfuric acid ester	grams	60
Water	do	340
Tragacanth solution of 6 per cent strength	grams	600

The material is steamed and washed. Acetat.

silk dyestuffs may likewise be added to the printing paste.

(2) On a mixed fabric of viscose rayon and acetate artificial silk a three-colored pattern is printed by machine printing or by film printing with the following pastes:

I

The dyestuff paste No. 1269 (mentioned in Schultz "Farbstofftabellen," 7th ed.)	grams	25
Glycerine	do	50
Water	do	365
Wheat-starch-tragacanth thickening	do	500
Potash	do	60
Sodium-formaldehyde-sulfoxylate	do	50
Total	kilo	1

II

The dyestuff paste No. 1269 (mentioned in Schultz "Farbstofftabellen," 7th ed.)	grams	100
Glycerine	do	80
Water	do	120
Wheat-starch-tragacanth thickening	do	500
Potash	do	120
Sodium-formaldehyde-sulfoxylate	do	80
Total	kilo	1

III

n-Butanol-sulfuric acid ester	grams	70
Water	do	410
Wheat-starch-tragacanth thickening	do	500
A foam-preventing agent such as oil of turpentine or petroleum	grams	20
Total	kilo	1

The printed material is dried and steamed for 5 minutes in the rapid ager, thereupon oxidized, rinsed and soaped in the usual manner.

(3) A mixed fabric of viscose artificial silk and natural silk is printed with a printing paste having the following composition:

Isoamyl-alcohol-sulfuric acid ester	grams	100
Water	do	300
Crystal gum thickening 1:2	do	600

After the material has been printed and dried, it is steamed and washed as usual.

If dyestuffs for silk, for instance acid dyestuffs, have to be added to the printing paste, the steaming period is correspondingly prolonged and adapted to the fixing of the dyestuffs. Colored designs on a white ground are thus produced.

(4) A half-wool fabric is printed with a printing paste of the following composition:

Dodecyl alcohol sulfuric acid ester	grams	120
Water	do	360
British gum 1:1	do	500
A foam-preventing agent such as petroleum, oil of turpentine or a tertiary phosphate	grams	20
Total	kilo	1

After the material has been printed and dried, it is steamed and thereupon rinsed. The cotton fabric of the printed portions of the material are destroyed, whereas the woolen fibers remain unaltered.

We claim:

1. A process for producing pattern effects on textile material consisting of cellulose fibers and fibers of cellulose derivatives which comprises printing on the material organic sulfuric acid esters and subsequently drying, steaming and rinsing the material.

2. A process for producing pattern effects on textile material consisting of cellulose fibers and fibers of cellulose derivatives which comprises printing on the material aliphatic sulfuric acid esters and subsequently drying, steaming and rinsing the material.

3. A process for producing pattern effects on textile material consisting of cellulose fibers and fibers of cellulose derivatives which comprises printing on the material ethanol sulfuric acid ester and subsequently drying, steaming and rinsing the material.

4. A process for producing pattern effects on textile material consisting of cellulose fibers and fibers of cellulose derivatives which comprises printing on the material iso-amylalcohol sulfuric acid ester and subsequently drying, steaming and rinsing the material.

5. A process for producing pattern effects on textile material consisting of cellulose fibers and fibers of cellulose derivatives which comprises printing on the material dodecylalcohol sulfuric acid ester and subsequently drying, steaming and rinsing the material.

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