

UNITED STATES PATENT OFFICE.

ALFRED GUENTHER, OF COLOGNE-RIEHL, JOSEF HALLER, OF WIESDORF, AND ERWIN KÖSTER, OF COLOGNE-ON-THE-RHINE, GERMANY, ASSIGNORS TO GRASELLI DYE-STUFF CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

PROCESS OF DYEING WITH BASIC DYESTUFFS INVOLVING THE USE OF ARYL DERIVATIVES OF AMIDES OF AROMATIC HYDROXYCARBOXYLIC ACIDS AS MORDANTS.

No Drawing. Application filed January 29, 1926, Serial No. 84,780, and in Germany February 19, 1925.

This invention relates to a process of dyeing with basic dyestuffs involving the use of aryl derivatives of amides of aromatic hydroxycarboxylic acids as mordants.

5 We have discovered that the aryl derivatives of amides of aromatic hydroxycarboxylic acids and their derivatives when applied on cotton behave in a manner similar to tannin and are capable of fixing basic
10 dyestuffs in a condition fast to washing. Whereas tannin must be subsequently treated with potassium antimonyl tartrate (tartar emetic), the above named compounds on the other hand possess in themselves such
15 strong mordant properties that the subsequent treatment with metal salts may be omitted. The fastness to washing, rubbing, and light, of the dyeings produced with basic dyestuffs on the compounds named is con-
20 siderably better than on tannin-tartar emetic; the dyeing baths are more completely exhausted and therefore deeper dyeings are obtained.

The invention is illustrated by the following examples:

Example 1.

5 parts by weight of β -hydroxynaphthoic acid- β -naphthalide are stirred into a paste
30 with 10 parts by weight of Turkey-red oil, 15 volume parts of 30° Bé caustic soda and some water. Then the mixture is diluted with 1000 parts by weight of hot water and dissolved by boiling. Then it is diluted to
35 1500 volume parts, 15 parts by weight of sodium chloride are added and 100 parts by weight of cotton are introduced at 40-50° C. The cotton is mordanted during 2 to 3 hours while the bath is cooling after 15 ad-
40 ditional parts by weight of sodium chloride have been added when one hour has elapsed. The cotton is then unwound and rinsed with water which has been made acid by means of acetic acid until the at first-yellow tint has
45 disappeared. Then it is rinsed further with water for a time and dyed in the usual manner at 55-60° C. with basic dyes in a neutral or weak acetic acid bath.

Example 2.

50 5 parts by weight of 1-naphthol-2-carboxylic acid- β -naphthalide, prepared by

treating 1-naphthol-2-carboxylic acid chloride with β -naphthylamine at 182° F., are stirred into a paste with 3 parts by weight
55 of Turkey-red oil and .5 volume parts of 30° Bé. caustic soda, diluted and worked up in other respects as in Example 1, and finally dyed in the usual manner with a basic dyestuff. By introduction of substituents, as
60 for example, the benzoyl-group into the naphthalene nucleus of the above mentioned compound the properties of fastness of the dyeings produced with such compounds are
65 still further improved to a considerable extent.

Example 3.

5 parts by weight of the compound obtained by the action of 2 molecules of salicylic acid chloride on benzidine are stirred
70 into a paste with 3 parts by weight of Turkey-red oil and .5 volume parts of caustic soda, brought into solution with water and worked up further in the manner described
75 in Example 1, and then dyed in the usual manner with a basic dyestuff.

In the appended claims the term "aryl derivatives of amides of aromatic hydroxycarboxylic acids" is to be understood as in-
80 cluding aryl derivatives of amides of aromatic hydroxycarboxylic acids themselves as well as their derivatives and substitution products.

We claim:

1. In a process of dyeing cotton with a
85 basic dyestuff, the step of fixing the dyestuff by means of an aryl derivative of an amide of an aromatic hydroxycarboxylic acid as a mordant.

2. As a new product, cotton material dyed
90 with a basic dyestuff which is fixed by means of an aryl derivative of an amide of an aromatic hydroxycarboxylic acid as a mordant.

3. In a process of dyeing cotton with a
95 basic dyestuff, the step of fixing the dyestuff by means of an aryl derivative of an amide of a naphthol carboxylic acid as a mordant.

4. As a new product, cotton material dyed
100 with a basic dyestuff which is fixed by means of an aryl derivative of an amide of a naphthol carboxylic acid as a mordant.

5. In a process of dyeing cotton with a basic dyestuff, the step of fixing the dye-

stuff by means of a naphthalide of a naphthol carboxylic acid as a mordant.

6. As a new product, cotton material dyed with a basic dyestuff which is fixed by means
5 of a naphthalide of a naphthol carboxylic acid as a mordant.

7. In a process of dyeing cotton with a basic dyestuff, the step of fixing the dyestuff
10 by means of 1-naphthol-2-carboxylic acid- β -naphthalide as a mordant.

8. As a new product, cotton material dyed with a basic dyestuff which is fixed by means of 1-naphthol-2-carboxylic acid- β -naphthalide as a mordant.

In testimony whereof, we affix our signatures. 15

ALFRED GUENTHER.
JOSEF HALLER.
ERWIN KÖSTER.