

UNITED STATES PATENT OFFICE

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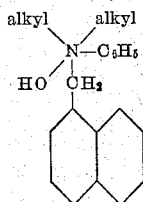
DISCHARGING PREPARATION

No Drawing. Application filed May 18, 1931, Serial No. 538,388, and in Germany April 16, 1930.

Our present invention relates to an improvement in the process of discharging dyeings and more particularly to a new compound having outstanding good discharging properties.

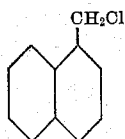
It is well known to use in discharging of dyeings quaternary ammonium bases or their sulfonic acids as an assistant. Although these products found on the market have served to improve the art of discharging dyeings, in many cases a satisfying effect is not attained, since certain vat dyes are not discharged in the desired degree.

Now we have found that it becomes possible by the use of the hitherto unknown dialkyl phenyl-1-naphthomethyl ammonium compounds of the formula



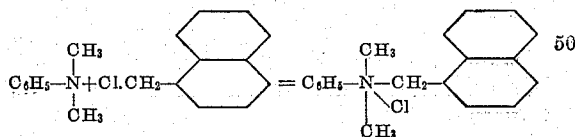
or the substitution products of these compounds, that means, of the free bases, the corresponding ammonium chlorides or sulfonic acids either individually or in combination with other well-known discharging compounds to discharge dyeings hitherto held to be undischageable. These new discharging compounds may be used in an alkaline, a neutral or acid medium.

The new compounds are easily accessible by condensing in the known manner a dialkyl aryl amine of the benzene series with 1-chloro-1-methylnaphthalene of the formula



and by sulfonating the condensation product obtained, if desired.

In the case of dimethyl aniline, for instance, this condensation occurs according to the following equation:



The compounds covered by the general formula given above, are of outstanding value when discharging dyeings obtainable with the aid of the dyes which are marketed under the trade-names "Indanthrene, Helindone, Algol or Hydron" dyes.

The following examples serve to illustrate our invention without limiting it.

Example 1.—On the goods dyed with a vat dye, for instance, with the difficultly dischargeable Indanthrene-dark-blue BO (see Schultz, Farbstofftabellen, 5th edition, No. 763) a discharging preparation is printed having the following composition:

	Grams
British gum	250
Tragacanth 65:1000	340
Glycerin	80
Rongalit C (cf. Beilstein, Handbuch der Organischen Chemie, 4th edition, Vol. I, page 577)	150- 50
Sulfonated dimethyl phenyl-1-naphthomethyl ammonium hydroxide	175-250
Potassium carbonate or the corresponding quantity of caustic soda	80- 30
Triethanol amine	0- 40
	1000

After having printed the discharging preparation and after drying, the goods are steamed for 2 to 4 minutes in the Mather-Platt or for a longer or shorter time in another steam cooker, subsequently treated in a boiling discharging bath containing 5 to 20 grams of sodium silicate, sodium car-

bonate or caustic soda, soaped for about 1/4 hour and finally washed with water.

Example 2.—The goods dyed with indigo or with another vat dye are printed with a discharging preparation containing

	Grams
British gum 1:1-----	200
Tragacanth 65:1000-----	250
Glycerin-----	80
10 Paste of zinc white 1:1-----	0-100
Sulfonated dimethyl phenyl-1-naphthomethyl ammonium hydroxide-----	175-250
Potassium carbonate or the corresponding quantity of caustic soda-----	30- 80
15 Triethanol amine-----	40
	1000

20 The further treatment is carried out as indicated in Example 1.

Example 3.—On dyeings obtainable with the aid of vat dyes, the following discharging preparation is printed:

	Grams
25 Tragacanth 65:1000-----	260
Water-----	60
Glycerin-----	80
Paste of zinc white 1:1-----	0-100
30 Rongalit C-----	0-150
Sulfonated dimethyl phenyl-1-naphthomethyl ammonium hydroxide-----	175-250
Potassium carbonate-----	50
35 Caustic soda-----	5
Triethanol amine-----	0- 40
	1000

40 The further treatment is carried out as indicated in Example 1.

Example 4.—On goods dyed with sulfur dyes as, for instance, immedial green G G extra (Schultz, Farbstofftabellen, 5th edition, No. 746) or immedial-indone R R conc. (Color Index No. 959) a preparation is printed having the following composition:

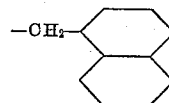
	Grams
British gum paste 1:1-----	350
50 Zinc white 1:1-----	100
Glycerin-----	80
Water-----	100
Sulfonated dimethyl phenyl-1-naphthomethyl ammonium hydroxide-----	260
55 Potassium carbonate-----	60
Triethanol amine-----	40
	1000

60 The steaming and the after-treatment is carried out as indicated in Example 1.

When adding to the discharging preparations mentioned in the examples, a dye which is fast to discharging, variegated effects are obtainable.

65 As mentioned above, our invention is not

limited to the foregoing examples. Thus, for instance, we may use an unsulfonated quaternary dialkyl ammonium compound of the benzene series containing in its molecule the radical



either in form of the free base or as a water-soluble salt as, for instance, the chloride. Other additions, well known in the art, may be employed in preparing the paste used for printing on the material to be discharged.

What we claim is:

1. A process for discharging dyeings which comprises treating the dyeings with a preparation containing a quaternary dialkyl-phenyl-1¹-methyl-naphthalene ammonium compound.

2. A process for discharging dyeings which comprises treating the dyeings with a preparation containing a quaternary dimethyl-phenyl-1¹-methyl-naphthalene ammonium compound.

3. A process for discharging dyeings which comprises treating the dyeings with a preparation containing sulfonated dimethyl-phenyl-1¹-methyl-naphthalene ammonium hydroxide.

4. A discharging preparation containing a quaternary dialkyl-phenyl-1¹-methyl-naphthalene compound.

5. A discharging preparation containing a quaternary dimethyl-phenyl-1¹-methyl-naphthalene compound.

6. A discharging preparation containing sulfonated dimethyl-phenyl-1¹-methyl-naphthalene ammonium hydroxide.

7. As a new discharging compound sulfonated dimethyl-phenyl-1¹-methyl-naphthalene ammonium hydroxide.

In testimony whereof, we affix our signatures.

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