Patented Mar. 20, 1928.

1,663,202

UNITED STATES PATENT OFFICE.

WOLF KRITCHEVSKY, OF CHICAGO, ILLINOIS.

HAIR DYE.

No Drawing. Application filed March 29, 1926. Serial No. 98,285.

It is a well known fact that organic bases, such as, diamino, di-hydroxy derivatives, tri-hydroxy derivatives, and mixtures of hydroxy and amino groupings derivatives of cyclic hydrocarbons, such as benzene, naphthalene, etc., form excellent hair dyes, when applied to the hair and left to oxidize, either in the air, or by an after treatment with oxidizing agents, such as hydrogen peroxide.

While preparations containing those bases are on the market and enjoy great popularity, they have a number of drawbacks. It requires a personal skill and expert technique in the art in order to apply them properly, otherwise the hair becomes stricken, and very often assume unnatural and undesirable shades. Another bad feature of the above named preparations lies in the fact that they stain everything with which they came in contact, such as the scalp, the forehead and hands.

We have found out that all those shortcomings can be overcome by simply incorporating the afore-named bases into soap. The finished product represents a cake of soap that can be applied to the hair by rubbing it on with water until a lather is formed, and the hair being penetrated by the above named dye preparation. After the application, the hair is rinsed, the hands washed, the color appearing in a very short time, due to the oxidation of the product in the air. If quicker action is desired, the process can be accelerated by rinsing the hair with hydrogen peroxide. Any shade can be obtained simply by varying the amount of base used, and also, the type of base used, for instance, di-hydroxy derivatives will give a blond shade, tri-hydroxy or oxy-amino derivatives will give the brown shades, di-amino derivatives will give brown to black shades. The same is true of amino-imino derivatives and amino-aryl-imino derivatives. Naphthalene will give redder shades than the benzene derivatives.

In order to prepare this type of soap, the base is first dissolved in water, or dissolved or suspended in alcohol, sulfonated oil, or any other suitable solvent. The solution or suspension is then incorporated with the soap. The following examples will illustrate the preparation of the product:

(1) 5 parts pyrogallol, 10 parts water, 85 parts soap.

(2) 5 parts paraphenylenediamine, 10 parts ethylene glycol, 85 parts soap.

(3) 5 parts amido-diphenylamine, 10 parts glycerin, 85 parts soap.

(4) 5 parts 1-amido-4 naphthol, 10 parts alcohol, 85 parts soap.

(5) 3 parts para-amido-phenol, 2 parts paraphenylenediamine, 10 parts benzol, 85 parts soap.

(6) 5 parts 1:2:4 diaminolphenol, 95 parts soap.

In no wise do I wish or mean to imply that I limit myself to the illustrative proportions given here. The proportions of the bases can be varied according to the depth of color for the shade desired or required. The greater quantity of base used, the greater the depth of color. I also do not limit myself to the bases mentioned above. Any bases belonging to the same class can be used. I also do not wish to limit myself to the use of one base only in the preparation of this product, since I have found that in order to get certain desired shades, it is sometimes necessary to use two or more bases in the same product.

The method of application of this product has been previously discussed.

I claim:

1. A dye and shampoo for hair consisting of soap, ethylene glycol and paraphenylenediamine.

2. A composition of matter consisting of soap, and organic bases of the general formula

$$\begin{matrix} -R \\ C \\ -R \end{matrix}$$

in which C stands for an organic cyclic hydrocarbon and R stands for a hydroxy group, an amino group and their derivatives and substituted products, and in which the position of the R's to each other is such that they are capable of forming a quinoidal structure.

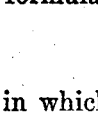
3. A composition of matter consisting of soap, solvents, and organic bases of the general formula

$$\begin{matrix} -R \\ C \\ -R \end{matrix}$$

in which C stands for an organic cyclic hydrocarbon, R for a hydroxy group, an amino group and their derivatives and substituted products, and in which the position

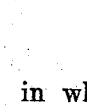
of the R's to each other is such that they are capable of forming a quinoidal structure.

4. A composition of matter consisting of soap, and organic bases of the general formula



in which R stands for a hydroxy group, an amino group, and their substituted products, and in which the position of two of the R's to each other is such that they are capable of forming a quinoidal structure.

5. A composition of matter consisting of soap, solvents and organic bases of the general formula



in which C stands for an organic cyclic hydrocarbon, R stands for a hydroxy group, an amino group and their substituted products, and in which the position of two of the R's to each other is such that they are capable of forming a quinoidal structure.

In testimony whereof I have affixed my signature.

WOLF KRITCHEVSKY.