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FINGERNAIL LACQUER-POLISH REMOVER

Gustave Klinkenstein, Maplewood, N. J., assignor
to Franz Neuschaefer, New York, N. Y.No Drawing. Application November 7, 1936,
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1 Claim. (Cl. 252—170)

This invention relates to nail polish removers.

Nail polishes in use at the present time are ordinarily made up of nitro-cellulose lacquers containing red or other coloring matter sufficient to give the desired color to the nail. This coating must be removed from time to time and replaced by a new coating and there have been devised, and are in common use, removers for this purpose. They consist essentially of a lacquer solvent which upon being rubbed on the lacquer coating softens and aids in its removal. It has been found in practice that these lacquer solvents tend to make the nails brittle when applied to them and it has been supposed that this brittleness is due to removal of oil from the nails. So far as I am aware the nails are made up largely of keratin, which is a non-oily material and actually contain little or no oil. I have ascertained that nails become brittle if the water content is removed therefrom. Normal nails contain approximately 10% of moisture according to Hoppe-Seylers "Zeitschrift für Physiologische Chemie" vol. 115, May 1921, pp. 38-42. Nail polish removers such as acetone and ethyl acetate have a dehydrating effect, that is, they tend to remove this moisture from the nails and to the extent that the moisture is removed I have found the nails become brittle.

It is the principal object of this invention to reduce or substantially eliminate the dehydrating tendency of these nail polish removers and thus to preserve the natural moisture and consequently to prevent the nails from becoming brittle upon the application of the remover.

I have found in accordance with my invention that great care must be exercised in modifying the finger-nail lacquer-polish remover because the solvent power of the remover should be kept unimpaired or substantially unimpaired. If the remover is modified to an extent such that the solvent power is interfered with, it will not function properly and will not remove the old lacquer from the nails. I have found that there are certain materials or combinations of materials which will serve as lacquer solvents and which will permit their dilution by water to a limited extent sufficient to prevent substantially the removal of moisture from the nails while still preserving their ability to serve as lacquer nail-polish removers. The amount of water to be

added to these mixtures will vary according to the lacquer solvents employed. I have found with the solvents which I have employed that the range of added water should be not less than about 2% and not over about 10% by weight of the total nail polish remover. I prefer generally to have the water content in the neighborhood of 8 to 10%. Smaller amounts may be employed for certain types of nails without substantial injury. It is even possible for the user to add a small quantity of water where desired to bring up the water content of the remover if it appears necessary although it is important that the remover contain not much more than 10% of added water for proper action.

I give below examples of embodiments of the invention as I now prefer to carry it out. It is to be understood that these examples are illustrative and that the invention is not to be restricted thereto except as indicated in the appended claim. The remover set forth in these examples is accordingly one for preparing the nails for lacquering while preserving the moisture content of the nails consisting of a lacquer solvent at least partially miscible with water, and sufficient water to preserve the moisture content of the nail without substantially impairing the lacquer-dissolving power of said lacquer solvent. The examples follow:

Example 1

	Per cent
Ethyl acetate (tech.) (containing 12-15% ethyl alcohol).....	49-45
Acetone.....	49-45
Water.....	2-10
	100

Example 2

	Per cent
Ethyl acetate (tech.) (containing 12-15% ethyl alcohol).....	49-45
Acetone.....	49-45
Water.....	2-10
	100
	Grams per gallon
Peruvian balsam.....	2.0
Resorcinol.....	6.4

Example 3

	Per cent
Acetone.....	98-90
Water.....	2-10
	100
	Grams per gallon
Peruvian balsam.....	2.0
Resorcinol.....	6.4

10

Example 4

	Per cent
Ethyl acetate (as in Ex. 1 above).....	98-90
Water.....	2-10
	100
	Grams per gallon
Pilocarpine hydrochloride.....	10
Quinine sulphate.....	5

20

Example 5

	Per cent
Ethyl acetate (as in Ex. 1 above).....	49-45
Ethyl methyl ketone.....	49-45
Water.....	2-10
	100
	Grams per gallon
Peruvian balsam.....	2.

30

Example 6

	Per cent
Propyl acetate.....	49-45
Acetone.....	49-45
Water.....	2-10
	100
	Grams per gallon
Resorcinol.....	6.4

35

Suitable perfumes or additional coloring may be added without other material change in the formula. Other chemical compounds having medicinal properties than those mentioned may be employed, the amount used preferably being not greater than 1% of the weight of the remover.

The acetone and ethyl acetate mentioned above are preferably technical grades containing only traces of water. The ethyl acetate contains small proportions—from 12 to 15%—of ethyl alcohol, although ethyl acetate free from alcohol may be employed.

It will be understood that I may employ other low boiling ketones suitable as lacquer solvents and which are at least partially miscible with water. In addition I may employ other low boiling esters miscible with the ketones mentioned and which will retain their lacquer solvent power in the presence of such ketones when diluted with water.

While the invention has been described with respect to certain particular preferred examples which give satisfactory results, it will be understood by those skilled in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention and it is intended therefore in the appended claim to cover all such changes and modifications.

What is claimed as new and desired to be secured by Letters Patent is:

A fingernail lacquer-polish remover for preparing the nails for lacquering, consisting of ethyl acetate 49-45%, acetone 49-45%, water 2-10%.

GUSTAVE KLINKENSTEIN.