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HAIR WAVING

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1 Claim. (Cl. 167-87.1)

The so-called permanent waving of hair has been carried out with some difficulty by skilled operators for about thirty years. Many procedures involved the use of electric heating appliances by which the hair twisted to shape was baked at a suitable temperature to deform it, so that when cooled the hair held its newly acquired deformed shape.

More recently it has been attempted to wave hair by cold solutions, but the solutions so far attempted to be so used have been sulphide solutions, evil smelling, and unstable. Moreover, the solutions said to be used cold were so after-treated with chemical neutralizers or deodorants as to result in a heat-giving reaction on the hair and this heat was essential to the waving. The reactions of the neutralizers or deodorants tend to produce sulphur, but while killing most of the evil odor, were strong enough to adversely affect the hair, especially bleached or dyed hair.

These so-called cold-waving solutions had to be applied by skilled and experienced operators if satisfactory results were to be obtained.

According to the present invention the foregoing and other difficulties and objections are overcome, and a hair waving procedure is provided which may be practically non-odorous, is workable either cold or at slightly elevated temperatures, and requires no skilled operator to obtain desirable results.

Ten grams of hydroxylamine sulfate (an ammonia-type nitrogen compound) was dissolved in 100 cc. water, making a pH of 2.5, applied to normal coarse hair at room temperature. The strand of hair had first been wound up in the usual way. At the end of two hours the hair was washed in cold water and was found to have a soft lustrous permanent wave. To speed up time a higher pH should be used.

The same solution was used on rolled up bleached hair when there was previously added to it 10 cc. monoisopropanolamine, and in thirty

minutes after application it was washed out leaving the hair in soft lustrous permanent curls.

When twenty grams of hydroxylamine sulfate were used in 100 cc. water, a satisfactory curl was obtained in ninety minutes.

For more rapid work it was found possible to use thioglycolic acid as an accelerator. Ten grams of thioglycolic acid and seven grams of sodium hydroxide and ten grams of hydroxylamine sulfate were dissolved in 100 cc. water and applied to the hair.

At the end of fifteen minutes it was treated with a solution containing,

15	Water	-----cc--	500
	Hydrogen peroxide 20-volume	-----cc--	500
	Tartaric acid	-----grams--	30

The hair was left for five minutes and grew warmer than body temperature and then washed after it had cooled. The curls were shiny, soft and permanent.

When standard extract of witch hazel was substituted for the water, the slight odor of thioglycolic acid almost disappeared and the pH lowered, making it useful for home use where no skill is needed.

10 grams hydroxylamine sulfate, 5 cc. of thioglycolic acid, 20 cc. 26° aqua ammonia were dissolved in 100 cc. of water.

The solution was applied to hair at room temperature while the hair was wound on a rod. It was washed out first with the hydrogen peroxide described above and then with water, leaving the hair in soft and lustrous curls.

Having thus described certain embodiments of the invention, what is claimed is:

The process of curling hair which consists in treating the rolled-up hair with a solution containing hydroxylamine sulfate, and an alkaline substance.

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