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METHOD OF TREATING FURS

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This invention relates to the treatment of furs and more particularly to the treatment of fur hair or fur skins.

One of the objects of the invention is the provision of an improved process for substantially permanently straightening or setting fur hair, whereby the straightened or set condition thereof is not impaired by the action of moisture, and to improve the gloss or lustre thereof. This process is particularly useful in the treatment of the hair of lamb skins and sheep skins for permanently straightening the same as well as to other furs where, for example, it is necessary or desirable to alter the curl formation for improving the appearance of the same and to set the hair in the altered curled formation, or generally for setting fur hair in a desired curl form or pattern. For example, in the case of Persian lamb skins where the fur hair or parts have a curl formation which is not altogether pleasing, it is possible to alter the curled formation and to set the hairs in the improved form.

In accordance with the present invention, after the pelt is tanned, the fur hair is treated with an oil, i. e., a glyceride of a fatty acid, and formaldehyde and thereafter subjected to the action of heat to form a water-insoluble product on said hairs, the heat being applied at as high a temperature as possible without singeing the hair, preferably by ironing the fur, whereby to permanently straighten the fur hairs, as in the case of lamb skins, sheep skins, etc., or to set the hair in the desired curl formation, as in the case, for example, of Persian lamb. The fur thus treated with oil and formaldehyde and thereafter ironed at a high temperature permanently retains the straight or set characteristic imparted thereto, being impervious in this respect to the action of rain, snow or other moisture. Also, by means of this treatment, the gloss or lustre of the hair is greatly improved.

Oils of various types can be used, for example, Turkey red oil, castor oil, linseed oil, sperm oil, etc. The oil can be applied together with the formaldehyde in a liquid solution or the like, or these substances can be applied separately to the fur, in which latter case the oil is applied after the application of the formaldehyde. When the oil is incorporated in the formaldehyde solution, said oil is either of the water soluble type, such as, for example, Turkey red oil, which is a sulfonated glyceride of a fatty acid or is contained in a solvent therefor, for example, castor oil in alcohol (C_2H_5OH) and water. On the other hand, when the oil is applied after the application of the formaldehyde, it may be of the type which is soluble in water or of the type which is not water soluble, some other solvent, for example, benzol, for the oil being used. In other words, the oil applied to the hair preferably contained in a solvent therefor, whether the oil is applied simultaneously with the formaldehyde or after the formaldehyde is applied, and further in accordance with the preferred mode of practicing my process, the oil is applied simultaneously with the formaldehyde and is contained in the formaldehyde solution. The proportion of oil in the liquid applied to the hair in accordance with this invention is from about 1% to about 3%.

In the present process, the oil which is applied to the fur has also been found to improve the effect of the process, enabling the application of heat at temperatures higher than was heretofore possible without singeing the air. Further, as a result of incorporating an oil in the hair treating composition, the concentration of formaldehyde can be comparatively low as will hereinafter appear from the examples of the present method. The low concentration of the formaldehyde reduces the possibility of damage to the skin of the pelt, and the presence of the oil further tends to prevent such damage. Further, although the concentration of formaldehyde is low, the use of a catalyst is not essential, although if desired any suitable acid or acid-forming substance may also be incorporated in the composition as a catalyst, for example, such acids as acetic acid, formic acid, hydrochloric acid, or such acid-forming salt as aluminum chloride.

The composition of the present invention is applied to the fur hair either by a brush or spray and the quantity of the composition while sufficient to thoroughly coat the hairs is not so large as to form a thick layer thereon. It will be understood that the composition is applied only to the side of the fur skin carrying the hair, inasmuch as the skins are not immersed in a bath containing the hair treating composition. After this composition is applied to the hair either by a brush or by a spray, as just described, the hair is subjected to the action of heat, in any suitable way as by ironing the fur hair, at a temperature as high as possible without singeing the fur hair, which temperature is for sheep skins, for example, about 250° F., and which is lower, say about 220° F., for fur skins such as, for example, Persian lamb. The heat may be applied to the fur hair either immediately after the application of the oil and formaldehyde or at some later time.

After the fur is subjected to this treatment, it may be dyed and finished in the usual way.

The following are preferred examples of practicing my invention:

Example 1

The composition applied to the hair consists, in this example of the invention, of a water solution of about 12% formaldehyde and about 3% of Turkey red oil. This liquid composition is applied to the fur hair by a brush or by a spray, and thereafter the fur hair is subjected to the action of heat preferably by ironing the same with a hot iron at a temperature of about 250° F. in the case of sheep skins.

Example 2

The composition, in this example of the invention, consists of a water solution of about 12% formaldehyde and about 3% castor oil. The castor oil added to the formaldehyde solution is in the form of a colloidal suspension formed by mixing the oil with alcohol and water in the proportion of about 50% water and 50% alcohol (C_2H_5OH). This liquid composition is applied to the fur hair as described above, that is, by a brush or by a spray, and thereafter the hair is subjected to the action of heat, applied by a hot iron at a temperature of about 250° F. in the case of sheep skins.

Example 3

The composition used in accordance with this example of the invention consists of a water solution of about 12% formaldehyde, 3% Turkey red oil and 20 cc. of an acid (or 20 grams of an acid-forming salt) per liter of the liquid composition. This liquid composition is applied to the hair by a brush or spray, as described in the above examples, and thereafter the hair is treated by subjecting the same to the action of heat as described in the above examples, that is, by ironing the hair with a hot iron at a temperature of about 250° F. in the case of sheep skins.

Example 4

The composition applied to the hair pursuant to this example of the invention is the same as the composition applied in Example 2 described above, with the addition of about 20 cc. of an acid (or 20 grams of an acid-forming salt) per liter of the composition. After this composition is applied to the fur hair, by a brush or spray, the fur hair is ironed with a hot iron at a temperature of about 250° F. in the case of sheep skins.

While I have described the preferred manner of practicing my invention, it will be understood that various changes may be made therein. Also, it will be understood that the proportions of oil and of the other ingredients in the compositions hereinbefore specified may be varied substantially, within practical limits, from those specified and are therefore to be considered as illustrative but not in limitation of the invention. Accordingly, I do not wish to be limited to the process as hereinbefore described or illustrated in the examples, except as may be required by the scope of the appended claims. Further, it will be understood that unless otherwise specified in the claims, the oil and formaldehyde may be separately applied.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. The method of treating the hair of furskins which comprises applying to the hairs a glyceride of a fatty acid and a solution of formaldehyde, and thereafter applying heat to the hairs for forming a water-insoluble product on said hairs.

2. The method of treating the hair of fur skins which comprises applying to the hairs a liquid containing a glyceride of a fatty acid and formaldehyde, and thereafter applying heat to the hairs for forming a water-insoluble product on said hairs.

3. The method of treating the hair of fur skins which comprises applying to the hairs a liquid containing a glyceride of a fatty acid, formaldehyde, and an acid, and thereafter applying heat to the hairs for forming a water-insoluble product on said hairs.

4. The method of treating the hair of fur skins which comprises applying to the hairs a liquid comprising a solution of formaldehyde and a sulfonated glyceride of a fatty acid, and thereafter applying heat to the hairs for forming a water-insoluble product on said hairs.

5. The method of treating the hair of fur skins which comprises applying to the hairs a liqiud comprising a solution of about 12% formaldehyde and from about 1% to about 3% of a glyceride of a fatty acid, and thereafter applying heat to the hairs for forming a water-insoluble product on said hairs.

6. The method of treating the hair of fur skins which comprises applying to the hairs a liquid containing Turkey red oil and formaldehyde, and thereafter applying heat to the hairs for forming a water-insoluble product on said hairs.

7. The method of treating the hair of fur skins which comprises applying to the hairs a liquid containing castor oil and formaldehyde, and thereafter applying heat to the hairs for forming a water-insoluble product on said hairs.

8. The method of treating the hair of fur skins which comprises applying to the hairs a glyceride of a fatty acid in a solvent therefor and also applying to the hairs a solution of formaldehyde, and subjecting the hairs having the said glyceride of a fatty acid and said formaldehyde applied thereto to the action of heat for forming a water-insoluble product on said hairs.

9. The method of treating the hair or fur skins which comprises applying to the hairs a solution of formaldehyde, thereafter applying a glyceride of a fatty acid to said hairs, and subjecting the hairs having said glyceride and said formaldehyde applied thereto to the action of heat for forming a water-insoluble product on said hairs.

10. The method of treating the hair of fur skins which comprises applying to the hairs a solution of formaldehyde, thereafter applying to said hairs a glyceride of a fatty acid in a solvent therefor, subjecting the hairs having said glyceride and said formaldehyde applied thereto to the action of heat for forming a water-insoluble product on said hairs, and thereafter dyeing and finishing the fur skins.

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