Patented Sept. 25, 1928. 1,685,168

UNITED STATES PATENT OFFICE.

JOHN H. MARTIN, OF CENTRAL PARK, NEW YORK.

PREPARATION OF FUR FOR SHRINKING AND FELTING.

No Drawing. Application filed April 28, 1926. Serial No. 105,814.

In the preparation of fur hair or fur (as it may be designated for brevity) for felting and for the shrinking which must accompany the felting, particularly in the manufacture of hats, the fur, either on the skin or after its removal from the skin, is subjected to the action of chemicals which so affect the character of the fur as to promote the shrinking and the felting, the chemical employed, generally in solution, being sometimes brushed into the fur on the skin, the fur being subsequently removed from the skin, and being sometimes used as a bath in which the fur is immersed after removal from the skin. After treatment with the chemical, the fur is dried and is thereafter subjected to shrinking and felting and dyeing processes, to which the treatment referred to is preliminary. The method heretofore employed and even now commonly employed has involved the use of nitrate of mercury, which gives satisfactory results so far as the shrinking and felting qualities of the fur are concerned, but is known to be exceedingly harmful to those who apply it and to those who handle the fur in subsequent processes. Other chemicals, such as sodium peroxide, have been proposed, but have been found to give less satisfactory results so far as concerns the effect on the fur. Still other chemicals have been proposed and have been found to give satisfactory results, although the discovery of their effectiveness has been so recent that they have not yet come into wide use. In the further investigation of the subject and in the development of the present invention, it has been found that acids, both organic and inorganic, used alone do not have the desired effect on the fur, but when used with a small admixture of a hydroxy acid of the fatty acid series, such as glycolic acid or one of its homologues, will produce results not only fully equal to those produced by nitrate of mercury without its harmful effect, but even superior in the felting quality of the fur and in the absence of undesirable effects on color. The acid used must be water-soluble and may be either an organic acid, such as acetic acid, or an inorganic acid, such as sulphuric acid, hydrochloric acid, nitric acid, etc. As will be well understood by those experienced in the art, the particular kind of acid to be used may be determined to some extent by the nature of the fur to be treated and that the hydroxy acid to be selected and its proportion in the mixture may also be determined by the nature of the fur to be treated. As examples of embodiments of the invention, the following are noted, it being understood that the solution is applied to the fur in the usual manner, either to the fur before it is removed from the skin or to the fur after it is removed from the skin:

(1) To 1000 cubic centimeters of a 10% solution of sulphuric acid is added 20 grams of glycolic acid.

(2) To 1000 cubic centimeters of a 6% solution of hydrochloric acid is added 20 grams of lactic acid.

(3) To 1000 cubic centimeters of a 12% solution of acetic acid is added 5 grams of glycolic acid.

The glycolic acid and the lactic acid, as is well understood, are hydroxy acids of the fatty acid series and the use of other hydroxy acids of the same series will suggest itself. Furthermore, while acetic acid has been mentioned as an example of the organic acids and sulphuric, hydrochloric and nitric acids have been mentioned as examples of inorganic acids, it will be understood that the invention is not limited to the use of the acids named and that any acid may be employed within the scope of the invention, provided it is of such a character and is used in such strength as to be capable of acting upon the fur substance without destroying it or destroying its shrinking and felting qualities.

In the present application it is sought to cover broadly the use of such an acid as that just referred to, whether organic or inorganic, with an admixture of a hydroxy acid of the fatty acid series and, specifically, the use of such an organic acid with an admixture of a hydroxy acid of the fatty acid series, the admixture of such an inorganic acid, with a hydroxy acid of the fatty acid series being made the subject of a separate application.

I claim as my invention:

1. The improvement in the art of preparing fur for shrinking and felting, which consists in subjecting the fur to the action of an acid

with an admixture of a hydroxy acid of the fatty acid series.

2. The improvement in the art of preparing fur for shrinking and felting, which consists in subjecting the fur to the action of an organic acid with an admixture of a hydroxy acid of the fatty acid series.

3. The improvement in the art of preparing fur for shrinking and felting, which consists in subjecting the fur to the action of acetic acid with an admixture of a hydroxy acid of the fatty acid series.

4. The improvement in the art of preparing fur for shrinking and felting, which consists in subjecting the fur to the action of an organic acid with an admixture of glycolic acid.

This specification signed this 23d day of April, A. D. 1926.

JOHN H. MARTIN.