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㉙ **Process for making fibres from animal hair.**

㉚ A process for making hair fibre from Angora rabbit hair, comprising the steps of treating the Angora rabbit hair in a diluted acid solution containing hydrogen peroxide for bleaching and sterilizing, washing the Angora rabbit hair in water and dehydrating it, treating the Angora rabbit hair in weak alkaline solution for neutralizing and providing crimps or curls in the hair fibre, washing the hair fibre with water, and drying the hair fibre after dehydrating.

EP 0 450 843 A2

BACKGROUND OF THE INVENTION

The present invention relates to a process for making fibres from the hair of an animal, e.g. a rabbit, and in particular from Angora rabbit hair.

It is known that the hair fibres obtained from Angora rabbits do not have natural curls or crimps such as those of a fleece of wool, and in order to provide curls or crimps therein such Angora rabbit hair fibre has to be treated in an alkaline solution. However, the hair fibre which is treated only in an alkaline solution is liable to be brittle and lustreless, and also has an intensity or strength less than that of the untreated, fresh hair fibre. It is therefore difficult to spin yarn out of such hair fibre that has been treated only in an alkaline solution.

It is therefore desirable to provide a process for making hair fibre from Angora rabbit hair which results in the hair fibre being white and bright (so as to be suitable for upgrading in quality) and being provided with curls or crimps.

SUMMARY OF THE INVENTION

According to one aspect of this invention animal hair (e.g. hair obtained from Angora rabbit) is treated in a diluted acid solution containing hydrogen peroxide and subsequently in a weak alkaline solution to cause the hair fibre to adopt a curled or crimped appearance.

In one embodiment of the invention, Angora rabbit hair obtained from Angora rabbits is put in a diluted acid solution containing hydrogen peroxide heated to temperatures of the order of 70 to 80° and agitated for 15 to 30 minutes, in order to bleach and sterilize the rabbit hair. Then the Angora rabbit hair is washed with water several times in a water tank and dehydrated in a dehydrator for say, 15 to 25 minutes. The Angora rabbit hair thus treated is then immersed for, say, 5 to 12 minutes in 0.5 to 3% weak alkaline solution comprising sodium carbonate or urea in order to neutralize the remaining acid ingredient of the rabbit hair and cause the hair fibre to be provided with curls or crimps. The Angora rabbit hair is then again washed in water several times and dehydrated sufficiently in a water tank. Finally the treated Angora rabbit hair is dried by heating in a drying oven or by utilising the heat of the sun's rays, resulting in bright and lustrous hair fibre having curls or crimps and an intensity or strength closely approaching that obtainable from a wool fleece.

The thus treated hair fibre can be carded in a card machine and be turned into spinning yarn. Furthermore, since the resultant hair fibre is white and bright (or lustrous), it is possible to dye the hair fibre before and/or after spinning or weaving.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

By way of non-limiting example, one embodiment of the invention comprises, essentially, the process steps of:

1. treating Angora rabbit hair in a diluted acid solution containing hydrogen peroxide,
2. washing with water,
3. drying or dehydrating,
4. treating in a weak alkaline solution,
5. washing with water, and
6. dehydrating and drying.

In one specific example, Angora rabbit hair obtained from Angora rabbits is immersed in a bath of diluted acid solution containing hydrogen peroxide, and the solution is heated to temperatures of the order of 70 to 80°. The diluted acid solution may be 1.5-2% diluted sulphuric acid-solution, and 35% by weight of hydrogen peroxide, in relation to the above diluted acid solution, being added. The Angora rabbit hair immersed in the diluted acid solution containing hydrogen peroxide is agitated for 15-30 minutes in order to each sterilize the hair. Then, the Angora rabbit hair is removed from the bath and is washed with clean water in a water tank several times and dehydrated in a dehydrator for 15 to 25 minutes.

After dehydration, the Angora rabbit hair is treated in a second bath containing weak alkaline solution in order to neutralize any acid ingredient still remaining in or on the rabbit hair and to provide the hair with curls or crimps. The weak alkaline solution may be a 0.5-3% solution of sodium carbonate or urea. The Angora rabbit hair is immersed in the solution for 5 to 12 minutes. After removal of the Angora rabbit hair from this second bath it is washed with water in a cleansing tank several times and dehydrated in a dehydrator.

The dehydrated Angora rabbit hair is then dried by heating in a drying oven at 60-80° or alternatively is dried by utilizing the heat of the sun's rays.

The resultant hair fibre is white, bright and lustrous and has curls or crimps suitable for spinning the hair and an intensity or strength approaching that obtainable from a wool fleece. This resultant hair fibre is then carded in a card machine to provide the bulky fibric characteristics for spinning yarn. Since the resultant hair fibre is white and bright, it is possible to dye the hair fibre before and/or after spinning or weaving.

It will be appreciated that the above-described embodiments of the present invention enable Angora rabbit hair (which in nature has few curls or crimps) to be formed as a hair fibre similar to the fleece of wool having many curls or crimps.

Claims

1. Process for making hair fibre from animal hair, e.g. Angora rabbit hair, the process comprising the steps of:
 - (1) treating the hair in a diluted acid solution containing hydrogen peroxide,
 - (2) washing the hair with water,
 - (3) drying or dehydrating the hair,
 - (4) treating the dried or dehydrated hair in a weak alkaline solution,
 - (5) washing the resultant hair fibre of (4) with water, and
 - (6) dehydrating and drying the washed hair fibre of (5).
2. Process according to Claim 1, wherein the diluted acid solution is 1.5 - 2% diluted sulphuric acid solution, and has hydrogen peroxide added thereto in an amount 35% by weight in relation to the diluted acid solution.
3. Fibre obtained from animal hair by a process according to either of the preceding Claims.

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