Patented Oct. 29, 1935 2,019,183

UNITED STATES PATENT OFFICE

2,019,183

PROCESS FOR MAKING DURABLE WOOL LIKE ARTIFICIAL SILK

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No Drawing. Application May 24, 1934, Serial No. 727,277. In Germany May 24, 1933

3 Claims. (Cl. 117—53)

This invention relates to improvements of artificial fibers, especially artificial silk. In accordance with a copending application of Rudolph H. Kagi, Ser. No. 658,838, filed February 27, 1933, it is known that desirable changes in artificial fibers can be produced by supertwisting an artificial silk yarn, setting the twist therein by moistening at high temperatures, drying and thereafter untwisting the yarn. The result is a woolly material having a high luster and softness and possessing a lasting curliness.

In accordance with the present invention, I have found that the curliness of the resulting woolly material may be still further increased and the product rendered more resistant to the action of further wet treatment such as washing, bleaching, dyeing, etc., by simple further treatment of the yarn produced by the Kagi process. As an example of the process as I now prefer to practice it, the following is given. It is understood that this example is illustrative and the invention is not to be construed as limited thereto.

Example

Viscose yarn of a size of 450 denier with 100 twists per meter is supertwisted in 1200 twists per meter. Then the supertwisted yarn held on spools is steamed at 2 atmospheres pressure for one-half hour at 135° C. The yarn is untwisted in a detwisting machine, after drying, past the zero point and brought to 50 twists per meter in the opposite direction. The yarn so treated is in a lasting curly condition with high luster and softness. I further improve this condition by loosely hanging the curly skeins of yarn in a steaming chamber where it is subjected to saturated steam for approximately ½ hour at approximately 3 atmospheres pressure. The pressure here mentioned is 3 atmospheres pressure above ordinary atmospheric pressure or 4 atmospheres pressure absolute. After the treatment with the steam the yarn is removed. By this treatment the steamed yarn is found to be more curly than the Kagi product. In addition it resists wet treatment such as washing bleaching and dyeing particularly in the characteristic that this steamed yarn substantially does not shrink upon being given such treatment.

The other processes described in the Kagi application and particularly those of the examples there given may be carried out with a further treatment such as described in the above example employing saturated steam. The duration of this final steam treatment and the pressure at which it is employed will vary according to the characteristics of the artificial yarn treated. Such yarns treated according to the present invention give similar characteristics to the yarn prepared according to the above example.

As many apparently widely different embodiments of this invention may be made without departing from the spirit and scope thereof in its broader aspects, it is to be understood that the invention is not limited to the preferred form herein given, and I desire to cover all modifications, forms and improvements coming within the scope of any one or more of the appended claims.

What I claim as new and desire to secure by Letters Patent is:—

1. A process for producing a new artificial silk fibrous material which comprises supertwisting an artificial silk yarn, setting the twist therein, drying the set yarn, untwisting the yarn and thereafter supporting it loosely in a wet heated atmosphere.

2. A process for producing a new artificial silk material which comprises supertwisting an artificial silk yarn, treating the yarn with a wetting agent, setting the twist therein by moistening the yarn at high temperature, drying the yarn and untwisting it, and thereafter supporting it loosely in a wet heated atmosphere.

3. A process for producing a new artificial silk fibrous material which comprises twisting a viscose yarn until it has a supertwist, placing the yarn so twisted on bobbins, moistening it at a high temperature thereon, drying the yarn, untwisting the yarn whereby a soft woolly material is produced having a lasting curliness, and increasing the curliness and making the yarn substantially nonshrinkable by wetting treatments by loosely supporting the yarn in a wet steam atmosphere at about 3 atmospheres pressure for about one-half hour.

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