UNITED STATES PATENT OFFICE.

ANSON TAYLOR, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PREPARING SILK FOR USE WITH FELTING SUBSTANCES.

Specification forming part of Letters Patent No. **19,657**, dated March 16, 1858.

To all whom it may concern:

Be it known that I, ANSON TAYLOR, of Brooklyn, in the county of Kings and State of New York, have invented, made, and applied to use a new and useful Method of Preparing Silk Fibers for Use With Wool, Fur, or Other Felting Materials; and I do hereby declare that the following is a full, clear, and exact description of the nature and operation of the said invention.

Silk waste of various kinds has been employed in connection with fur and wool in the manufacture of hat-bodies and other felted articles. In this case the silk waste has been cut up into pieces and passed through carding and picking machines; but it is found practically that the strength of the silk fiber is such that small knots and lumps will be formed by the rolling up of the fibers, even in the picking or carding machines, and when the fibers are distributed by the bow-string or other device in forming hat-bodies this knotting is augmented, and when the fabric is felted, planked, and sized this knotting is still more apparent, for as the goods shrink to a smaller size the silk fibers, being strong, adhere together and draw into knots, rendering the use of silk in the formation of felted articles an injury rather than a benefit to their appearance and evenness of texture. To avoid this difficulty, the silk fibers have been ground into a fine flocculent mass; but the fibers being very short are apt to wash out in the shrinking or be lost in the felting operation, and their shortness prevents them from adding materially to the strength of the fabric, and if left longer would become knotty, as before mentioned.

With the object in view of overcoming the tenacity of silk fibers and adapting the same to use with fur or other felting material, I first exposed the same to severe and rapid concussions from a hammer, and found the heat generated sufficient to partially destroy the great strength and tenacity of the silk fiber and render the same exactly adapted for felting purposes when mixed with fur, wool, cotton, or other fibrous materials, and the before-mentioned knotting was entirely prevented. I then exposed other waste-silk fibers to artificial heat sufficient to very slightly char the same, with like results.

The nature of my said invention consists, therefore, in exposing silk fibers to sufficient heat to partially destroy their strength and tenacity and render the same adapted to use with fur, wool, or other felting material in the carding, picking, bowing, or blowing operations in preparing the fibrous material, and to the subsequent operations of shrinking, planking, and finishing the felted goods.

For the above-named purpose I find it best to inclose said silk fiber, either in the form of waste from manufactories or after the same has been partially cut or broken by a picker or otherwise, in a suitable metallic case with an air-tight cover, and expose the same to a heat as nearly uniform as possible, of about 350° to 400° Fahrenheit, (more or less,) and for a time sufficiently long to partially destroy the great strength or tenacity of the fiber and render the same suitable for use with fur, wool, or other felting material. If the heating operation be conducted where air has free access to the fibers, the color will be changed (if white previously) to a very light brown. The operation of heating may be accomplished by fire, steam under pressure, hot water, (suitably confined,) or any similar means capable of generating or transmitting the necessary heat.

I do not claim the use of steam or a moderate degree of heat in the operation of preparing fibrous materials for carding, the same operating simply to soften the fibers temporarily; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The method herein described of preparing silk fibers for use with fur or other felting materials, substantially as and for the purposes specified.

In witness whereof I have hereunto set my signature this 16th day of October, 1857.

ANSON TAYLOR.

Witnesses:

LEMUEL W. SERRELL,

THOMAS G. HAROLD.