Aug. 18, 1936. W. T. WILSON 2,051,588

PROCESS OF CURLING ANIMAL FIBER YARN

Filed Oct. 10, 1935

FIG. 1

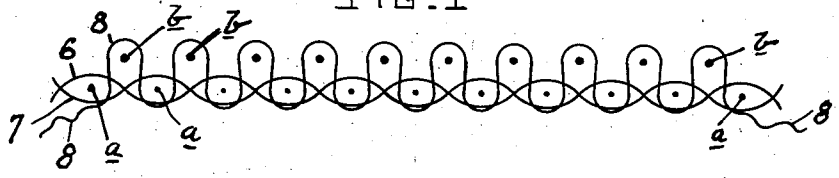


FIG. 2

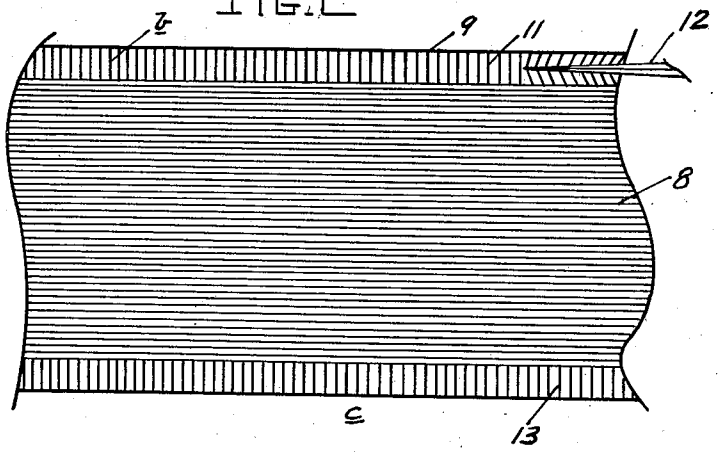


FIG. 3

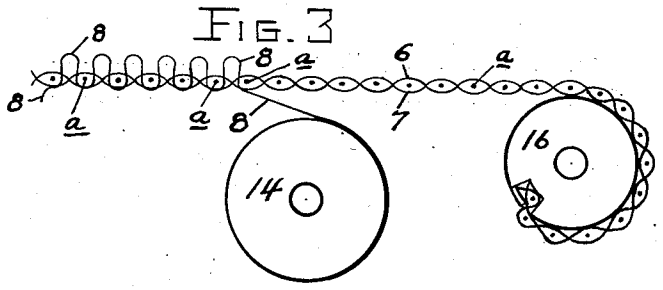
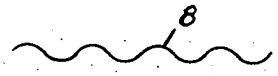


FIG. 4



FIG. 5



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PROCESS OF CURLING ANIMAL FIBER YARN

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5 Claims. (Cl. 28—1)

This invention relates to the process of curling or waving animal fiber yarn, and has reference particularly to a method in which the fiber strands are curled without being twisted.

An illustration of curled animal fiber yarn may be found in fabrics known today in the trade as "curly mohair" and peculiarly adapted for upholstering purposes on furniture and automobiles.

The present method of curling mohair comprises the steps of taking a definite number of strands or fibers, for instance, forty-eight, then twisting these strands together until the twist is very tight, then while holding this twist setting the curl therein by boiling, and then untwisting the fibers and winding them on a beam.

This particular method is tedious and costly, and while the height of the curls can be regulated to some extent this regulation cannot be done with the exactness in which it is accomplished in the invention hereinafter disclosed.

The object of the present invention is to provide a process whereby animal fiber yarn can be quickly and conveniently arranged into curls for setting, and may then be quickly and conveniently wound onto a beam.

A further object of the invention is to provide such a method in which the height of the curls can be regulated to a nicety.

A still further object of the invention is to provide curly animal fiber yarn without the process of twisting and untwisting the fibers.

A still further object of the invention is to produce curled animal fiber yarn in condition for setting, on an ordinary loom.

According to the invention, the process of curling animal fiber yarn comprises the steps of first weaving the animal fiber yarn into loops of pile fabric, the backing of which may comprise some cheap yarn, then setting the loops by heat or boiling, then removing the loop picks, and then withdrawing the said looped fiber yarn from the backing. In the last step, the looped fiber yarn may be separated from the backing by a slight tension and the curled fiber yarn may be wound onto one beam and the backing onto another beam.

The drawing illustrates an embodiment of the invention and the views therein are as follows:

Fig. 1 is a diagrammatic view showing the method of forming the animal fiber yarn into loops,

Fig. 2 is a diagrammatic top plan view of the woven fabric showing the loop picks extending out into the selvage and one side of the same being severed by a knife,

Fig. 3 is a diagrammatic view of the manner of winding the curled animal fiber yarn onto one beam and the backing onto another beam, and

Figs. 4 and 5 are diagrammatic views showing the different heights of curls produced by different heights of loops.

In Fig. 1, the backing strands **6** and **7** are crossed in the regular way by the harness. The operation is two-cycle, that is, pick *a* and pick *b* forming the cycle. The picks *a* form the backing while the picks *b* support the loops **8** across conventional gages, the height of which will determine the height of the loops.

The gages have not been shown because they are the same as ordinarily used in the making of pile fabric.

Fig. 2, which illustrates diagrammatically the top of the woven fabric, is provided with a selvage **9** and the animal fiber yarn loops **8** stop short of the edge of the fabric so as to provide a portion **11** of the picks *b* at each edge and uncovered by the loops. This will permit the insertion of a knife **12** along one side to sever the portions **11** of the loop picks *b* and will permit their being withdrawn from the loops by pulling at the point **13**. As a matter of fact, a blunt instrument can be placed between these ends **13** of the loop picks *b* and thus they may be readily pulled toward the side *c* and entirely freed from the loops which they have supported.

Fig. 3 shows a portion of the fabric with the loop picks *b* removed from the loops **8** and thus the curled animal fiber yarn **8** may be drawn down between the fabric picks *a* and wound onto a beam **14** while the backing formed of the strands **6** and **7** may be wound onto another beam **16**.

Of course it is understood that when the fabric is formed as shown in Fig. 1, or after the loop picks have been removed as explained in connection with Fig. 2, the frabric is subjected to heat or is boiled so as to set the loops and make the waves therein permanent. A steaming process may be employed.

By the description of the method here employed, it will be readily seen that the animal fiber yarn strands are never twisted and that after the curls or waves are permanently set therein and the loop picks removed, the curled fiber yarn may be beamed direct from the fabric without any untwisting. This naturally eliminates very costly methods and the curled animal fiber yarn can be produced at greatly reduced costs.

It has been found in some instances that after the animal fiber yarn has been formed into loops, the loops will still be retained without the necessity of heating, steaming or boiling. This method may be employed in some cases.

Of course the process herein described may be modified in various ways without departing from the invention herein set forth and hereafter claimed.

The invention is hereby claimed as follows:

1. The process of curling animal fiber yarn comprising the steps of weaving a fabric backing and pile loops of said animal fiber yarn in said fabric backing, then setting the fiber loops, and then withdrawing the animal fiber pile loops from the fabric backing.

2. The process of curling animal fiber yarn comprising the steps of weaving a fabric backing and pile loops of said animal fiber yarn in said fabric backing, then setting the fiber loops by heat, and then withdrawing the animal fiber pile loops from fabric backing.

3. The process of curling animal fiber yarn comprising the steps of weaving a fabric backing and pile loops of said animal fiber yarn in said fabric backing, then setting the fiber loops by boiling, and then withdrawing the animal fiber pile loops from the fabric backing.

4. The process of curling animal fiber yarn comprising the steps of first weaving the animal fiber yarn into loops of pile fabric over-loop picks, then setting the loops, then removing the loop picks, and then removing the set looped fiber yarn from the backing.

5. The process of curling animal fiber yarn comprising the steps of weaving the animal fiber yarn into loops of pile fabric over-loop picks, then removing the loop picks, and then withdrawing the looped yarn from the backing.

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