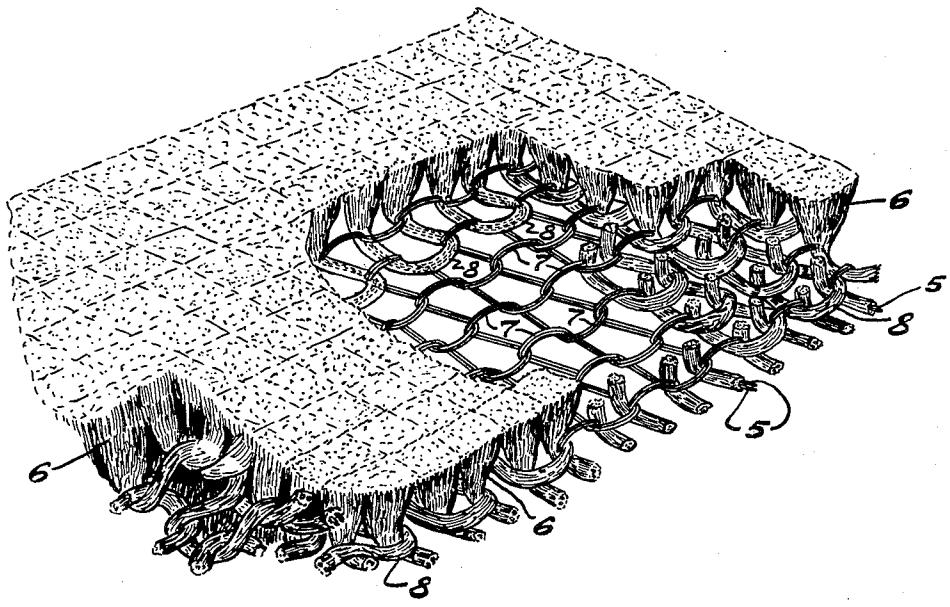
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KNITTED PILE FABRIC AND PROCESS OF MAKING THE SAME

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Inventor

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KNITTED PILE FABRIC AND PROCESS OF MAKING THE SAME

Application filed May 29, 1928. Serial No. 281,453.

The present invention relates to improvements in knitted pile fabrics and in the process of making the same, the main object of the invention being the provision of a knitted pile fabric in which the basic web, such as a simple plain or two strand web, or the base strands or yarns have first knitted therewith pile elements, composed of short loose, untwisted, fibres, and such knitted fabric is removed from the machine and treated to a fulling, or substantially to a fulling operation so that the finished product will not ravel at its edges, nor if punctured will it run, as is the case with the usual knitted fabrics.

A further object of this invention is the provision of a knitted pile fabric, which due to the above qualities is especially adaptable for overcoats, blankets, sports coats, and upholstery, when wool is employed as the pile element; for hosiery and underwear when the pile elements are composed of silk or silk noils; and outing flannels when cotton is used.

A further object is the provision of a process of making the improved knitted pile fabrics of the above described character.

To produce the present fabric, the basic fabric is produced in a combined knitting and carding machine, the latter feeding the carded and combed short loose fibers into the open knitting needles at a point just previous to the downward movement of each needle and the taking therein of the basic strands, the tension of the knitting machine being such that said strands are primarily embedded into the looped body of the fibers so that, what is necessary to produce the finished non-ravelling fabric, is to first shear the pile, if too long, and then full the fabric, the pile elements when this is done, then completely plate or cover the basic strands and hide them, and due to the shrinking action the portion of the pile elements knitted in with the basic strand or strands act by matting, twisting or otherwise to produce a finished non-ravelling marketable fabric, greatly improved in appearance and in quality over the fabric before being treated.

Where I have used the word "fulled", I find that any shrinking and abrading action that tends to shrink the fabric and cause individual matting of the knitted in portions of the pile elements, to produce a loose woolly rear surface upon the fabric, which results in a marketable non-ravelling fabric that is not the case with the fabric as it leaves the knitting machine, that is the fabric is so treated and affected that regardless of how the edges may be cut, it will not ravel, and should a hole be punched or cut in or through the body thereof, the fabric will not run, nor will it ravel.

In the accompanying drawings, is illustrated a piece of the fabric in perspective and diagram.

Referring to the drawings, the numeral 5 designates the knitted base strands or yarns, and 6 the individual pile elements, one to each needle and therefore one to each loop 7 of the said base strands. It will be noted that the loop portion 7 of the base strands are embedded in the loop portion 8 of the pile elements.

This is accomplished by using a relatively firm strand or strands, preferably of cotton, and loose short fibers longitudinally disposed, and so combed into the open needle just previous to the placing of the strands therein, that the tension on the strands tends and does bury the same in the looped portion of the pile element and thus renders it more easy to finish. Thereupon, the fabric or material is treated to the fulling or shrinking process as above described, which causes the pile elements and the base strand or strands to become interlocked. The pile elements may then be loosened, teaselled, or abraded without weakening the fabric, and the finished fabric hides or conceals the base yarns or strands, the interlocking relation of the pile elements and base yarns or strands resulting in a substantially non-ravelling or non-fraying knitted pile fabric.

For woolen fabrics, the base yarns or threads are preferably of cotton, while wool or other strands can be used, but can not or will not stand the tension that good cotton threads will.

For hosiery and underwear, the base yarns or threads are very fine cotton or silk, while the pile elements are composed preferably

of silk noils; while for cotton outing flannel, the base yarns or strands are of fine thread cotton while the pile elements are composed of short cotton fibers.

It is essential in producing this fabric that the fibers be introduced into the knitting machine at the knitting point, that is directly while the needles are moving into the position to receive the base strands, for if they are fed too soon, the pile elements will tend to fall out, due to the distance the needle must travel before the base strands are received and due to the rapid rotation of the cylinder which tends to shake the machine.

For silk hosiery, the pile after finishing, is shaved very short to produce a neat fabric, or for a short fiber for warm stockings, the pile is retained disposed upon the inside.

The herein application is a continuation in part of my earlier filed application, Serial No. 212,330, filed August 11, 1927.

What is claimed, is:—

1. A knitted pile fabric, comprising a knitted base strand of a firm nature, and pile elements consisting of short loose fibers knitted in with the base strand, the base strand being interlocked with the pile elements, due to a shrinking process to which the fabric is subjected, whereby said base strand and pile elements cooperate to prevent the edges of the fabric from ravelling.

2. A knitted pile fabric, comprising a knitted base strand of a firm nature, and pile elements consisting of short loose fibers knitted in with the base strands, the base strands being interlocked with the pile elements, due to the fulling of the fabric, whereby said base strands and pile elements cooperate to prevent the edges of the fabric from ravelling.

3. A knitted pile fabric, comprising a knitted base strand of cotton, and pile elements consisting of short loose fibers knitted in with the base strand, the cotton strand being interlocked with the pile elements, due to a shrinking process to which the fabric is subjected, whereby said cotton strand and pile elements cooperate to prevent the edges of the fabric from ravelling.

4. A knitted pile fabric, comprising a knitted base strand of cotton, and pile elements consisting of short loose fibers knitted in with the base strands, the cotton strands being interlocked with the pile elements, due to the fulling of the fabric, whereby said cotton strands and pile elements cooperate to prevent the edges of the fabric from ravelling.

5. The herein described process of making a non-raveling knitted pile fabric, which consists in knitting in with a base strand of a relatively firm nature pile elements consisting of short loose fibers, and subjecting the knitted material to a shrinking process to cause the base strand and pile elements to cooperate to prevent the edges of the fabric from raveling.

6. The process as set forth in claim 5, wherein the shrinking process consists in the step of fulling the material.

7. The herein described process of making a non-raveling, knitted pile fabric, which consists in knitting in with base strands of cotton, pile elements consisting of short loose fibers, and subjecting the knitted material to a shrinking process to cause the cotton strands and pile elements to cooperate to prevent the edges of the fabric from raveling.

8. The process as set forth in claim 7, wherein the shrinking process consists in the step of fulling the material.

In testimony whereof I affix my signature.

DAVID PELTON MOORE.