

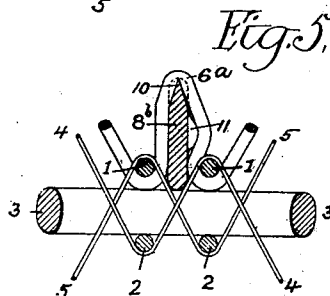
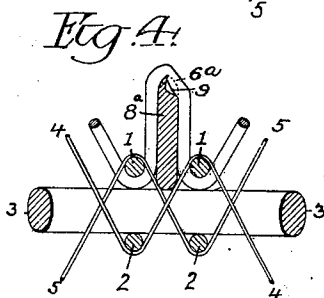
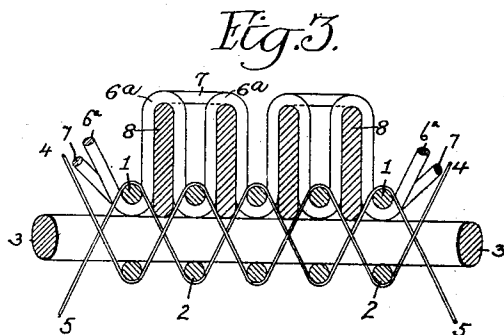
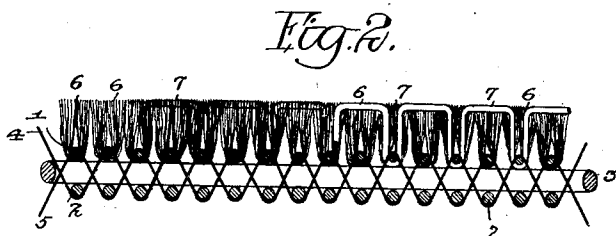
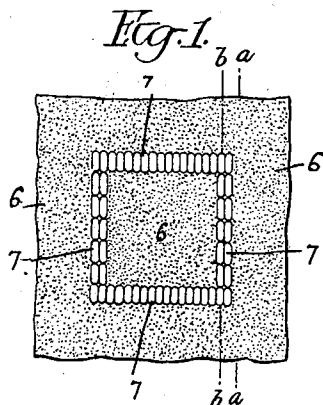
No. 760,985.

PATENTED MAY 24, 1904.

H. HARDWICK.
WOVEN PILE FABRIC.

APPLICATION FILED NOV. 17, 1903.

NO MODEL.



Witnesses:
Louis H. Buck.
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UNITED STATES PATENT OFFICE.

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WOVEN PILE FABRIC.

SPECIFICATION forming part of Letters Patent No. 760,985, dated May 24, 1904.

Application filed November 17, 1903. Serial No. 181,529. (No model.)

To all whom it may concern:

Be it known that I, HARRY HARDWICK, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Woven Pile Fabrics, of which the following is a specification.

My invention relates to that class of pile fabrics in which both cut and uncut pile-loops are employed, the object of my invention being to so weave such a fabric that certain loops will be cut by the withdrawal of the pile-wires without cutting other loops formed over the same wires.

In the accompanying drawings, Figure 1 represents a face view of a piece of fabric made in accordance with my invention. Fig. 2 represents an enlarged sectional view of the same, taken in the direction of the warp-threads, partly on the line *a a* and partly on the line *b b*, Fig. 1. Fig. 3 represents the first step in the weaving of the fabric. Fig. 4 represents a further step whereby certain of the pile-loops are cut, and Fig. 5 illustrates a modified method of accomplishing this result.

In carrying out my invention I may employ any desired form of backing fabric, into which the pile-forming warp-threads are tied, and I can use any ordinary form of pile-loom for weaving the fabric, since no change is needed in the mechanism for inserting and withdrawing the pile-wires or in any other part of the loom, except a slight change in the jacquard mechanism used for shedding the pile-forming warp-threads.

In the drawings I have shown a fabric having a backing composed of weft-threads 1 and 2, stuffer warp-threads 3, and binding warp-threads 4 and 5, cut pile-tufts 6 being tied into this backing fabric by each of the weft-threads 1 on the upper surface of said backing; but the uncut pile-loops 7 being bound to the backing by only every other one of said weft-threads 1, so that while a row of cut pile-tufts is bound into the backing fabric wherever an uncut pile-loop is thus bound, there are rows of cut pile-tufts separately tied into the backing fabric between such common tying-points. Hence wherever in the fabric there are uncut

pile-loops and cut pile-tufts lying in the same transverse plane the uncut pile-loop will extend longitudinally over a distance equal to two or more rows of cut pile-tufts.

In weaving the fabric a row of loops for producing cut pile is formed over each pile-wire 8, as shown, for instance, at 6^a in Fig. 3; but the pile-forming warp-threads which produce the uncut loops 7 are carried over two or more successive pile-wires. Thus, as shown in Fig. 3, each uncut pile-loop extends over two adjoining pile-wires 8. Each of the pile-wires is provided with a cutting-knife so disposed with respect to the loops 6^a and 7 that as said pile-wire is withdrawn the knife will cut the loops 6^a, formed over the single wires, but will not cut the loops 7, formed over the group of adjoining wires. This may be effected by providing each pile-wire with a laterally-acting knife 9, as shown, for instance, in Fig. 4, or by providing the wire with a top knife 10, such as is shown in Fig. 5, and with a lateral projection 11 adjacent to said knife, so that as the wire is withdrawn the loops formed over the single wires will be tightened on the wires at the approach of the knife and will be severed by the latter, the loops formed over the groups of wires being freed from such tightening influence, and consequently remaining uncut as the knife is drawn through them, or other forms of wire may be devised which will serve to cut the loops which are drawn over the single wires, but which fail to cut the longer and looser loops drawn over the pairs or groups of wires.

My invention is distinct from that class of fabrics in which alternate rows of cut and uncut pile are produced by looping pile-threads first over plain wires and then over wires provided with cutting-knives, since in my improved fabric rows of cut tufts and uncut pile-loops lie in the same transverse plane. My invention is also distinct from that class of fabrics in which the rows of pile-tufts are produced by forming their loops over pile-wires higher than those which form the uncut pile-loops and then shearing off the tops of these pile-loops, for in that case also there is

an alternation of cut and uncut pile-tufts and the cut pile-tufts are higher than the uncut pile-loops, whereas in my fabric the cut pile-tufts and the uncut pile-loops are all of the same or substantially the same height.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A pile fabric having cut and uncut pile and having the uncut pile-loops tied into the backing fabric at less frequent intervals than the cut pile-tufts, substantially as specified.

2. A pile fabric having rows of cut pile-tufts tied into the backing fabric in line with the tying-points of the uncut pile-loops, and one or more rows of cut pile-tufts separately tied into the backing fabric between such common tying-points, substantially as specified.

3. A pile fabric having cut pile-tufts and uncut pile-loops in the same transverse plane, an uncut pile-loop extending longitudinally over a distance equal to two or more rows of cut pile-tufts, substantially as specified.

4. A pile fabric having cut and uncut pile of substantially the same height and having the uncut pile-loops tied into the backing fabric at less frequent intervals than the cut pile-tufts, substantially as specified.

5. A pile fabric having cut and uncut pile of substantially the same height, rows of cut pile-tufts being tied in the backing fabric in line with the tying-points of the uncut pile-loops, and one or more rows of cut pile-tufts

being tied separately into the backing fabric between such common tying-points, substantially as specified.

6. A pile fabric having cut pile-tufts and uncut pile-loops of substantially the same height and in the same transverse plane, an uncut pile-loop extending longitudinally over a distance equal to two or more rows of cut pile-tufts, substantially as specified.

7. The mode herein described of producing a fabric with combined cut and uncut pile-surface, said mode consisting in forming the loops which are to be uncut over a greater number of wires than the loops which are to be cut, and then cutting the latter loops by withdrawing the wires over which they are formed, substantially as specified.

8. The mode herein described of producing a fabric with combined cut and uncut pile, said mode consisting in forming over a series of successive wires the loops which are not to be cut and over single wires the loops which are to be cut and then cutting the latter loops by withdrawing the wires over which they are formed, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY HARDWICK.

Witnesses:

HENRY NOAR,
JOS. H. KLEIN.