(No Model.)

C. H. LANDENBERGER.

PILED FABRIC.

No. 423,781. Patented Mar. 18, 1890.

FIG. 1.

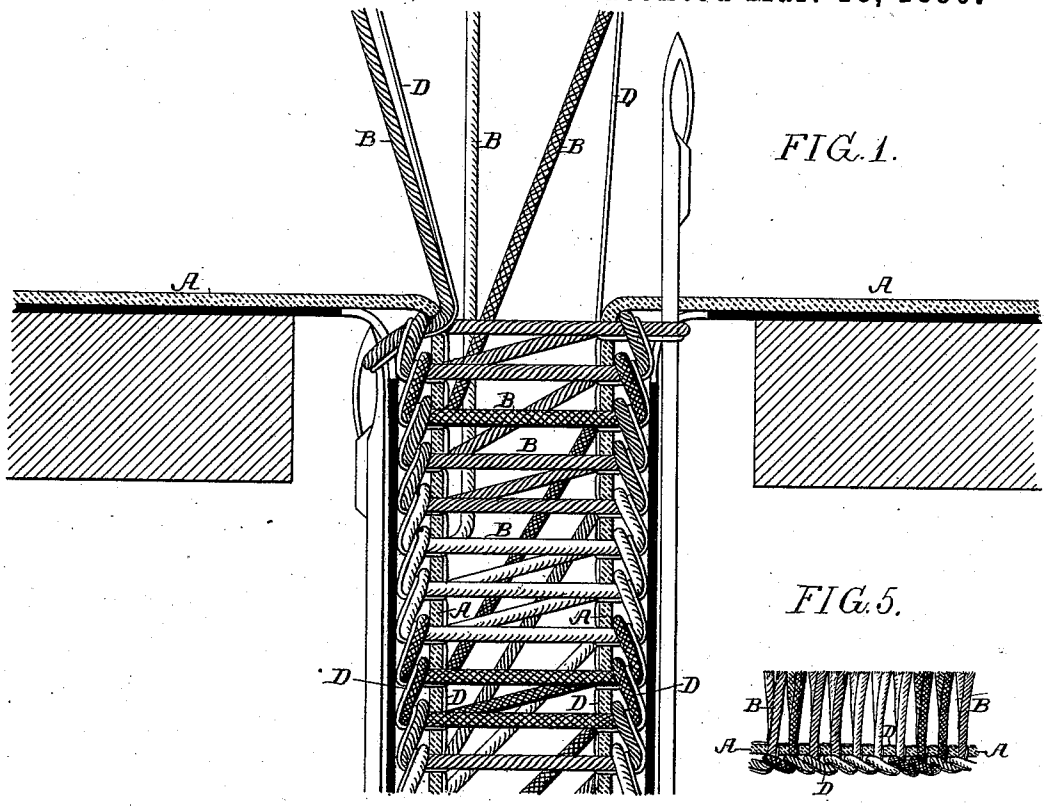


FIG. 5.

FIG. 4

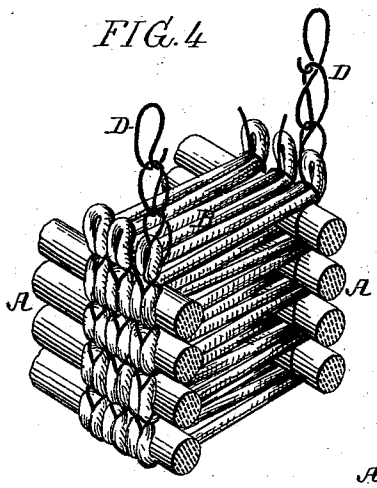


FIG. 3.

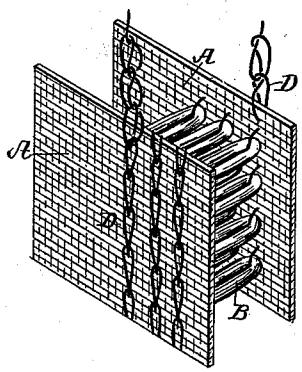
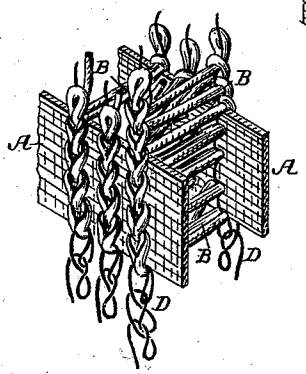


FIG. 2.



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UNITED STATES PATENT OFFICE.

CHARLES H. LANDENBERGER, OF LAWRENCE, MASSACHUSETTS.

PILED FABRIC.

SPECIFICATION forming part of Letters Patent No. 423,781, dated March 18, 1890.

Application filed September 24, 1888. Serial No. 286,148. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. LANDENBERGER, a citizen of the United States, and a resident of Lawrence, Massachusetts, have invented certain Improvements in Pile Fabrics, of which the following is a specification.

My invention consists of a fabric which can be rapidly and cheaply produced on a knitting-machine, and which constitutes an acceptable substitute for a Persian carpet or rug or like costly fabric now produced by tedious and expensive processes.

In the accompanying drawings, Figure 1 is a sectional diagram showing one method of making the fabric. Fig. 2 is a perspective diagram of the product of this method of manufacture. Figs. 3 and 4 are similar diagrams showing other methods of making the fabric, and Fig. 5 is a sectional diagram of a piece of single fabric formed by severing the duplex fabric shown in Figs. 1 and 2.

A A represent opposite backings; B, the tufting or figuring threads carried back and forth between the backings A, and D D binding-threads whereby the tufting-threads are tied down or secured to the backings A A.

As shown in Fig. 1, the backings A A are composed of coarse woven fabric, and the tufting-threads B are drawn through these backings and form rows of interlocked loops on the back of the same, each thread B first forming a loop on the back of one fabric A, and being then carried across and through the opposite fabric, forming a loop on the back of the same, and then returning to the first fabric, in the manner clearly shown in the drawings.

There are two binding-threads D for each row of tufting-threads B, one binding-thread for each backing, and each binding-thread forms a row of stitches and serves to tie in the looping or tufting thread to one of the backing fabrics.

Although the carrying of the tufting-threads through the backing fabrics and the interlooping of the same on the backs of said fabrics are preferred, these operations are not necessary to the proper carrying out of my invention. For instance, the tufting-threads may in some cases be simply tied down or secured to the faces of the backing fabrics by the binding-threads, as shown in Fig. 3; but in all cases the carrying of the tufting-threads through the backing fabric and the interlooping of said threads on the backs of said fabrics should be resorted to.

A complete fabric need not necessarily be used for the opposite backings, as single threads—such as shown in Fig. 4—may take the place of such fabric, the tufting-threads being bound to said backing-threads by binders D, as shown. These single threads are introduced successively by means of a shuttle after the formation of each course of stitches by the needles of the machine, as set forth in my application Serial No. 246,848, filed August 13, 1887. The use of the complete fabric as a backing is, however, preferred, as it imparts greater stability to the product and facilitates the manufacture of the same.

In the diagram shown in Fig. 4 the tufting-thread loops are not interlocked with each other on the back of the fabric, but are simply bound down by the tying-threads D. In this case the loops lie closer to the back of the fabric than when they are interlocked, and the same plan may be adopted when a complete fabric is used for the backing.

The fabrics shown in Figs. 1 to 4 are double, and are intended to be severed centrally in order to produce two fabrics, each having a cut pile or tuft, as in Fig. 5, for instance, the making of the fabric double in the first instance being an important feature of my invention, as it materially facilitates and cheapens the process of manufacture.

It has been heretofore proposed to make a single fabric having backing-threads such as shown in Fig. 4 and tufting-threads bound to said backing-threads; but the objection to this plan has been its comparative slowness, the process requiring as long a time to make a single fabric as is required to make a double one in accordance with my invention.

In making figured goods two or more sets of tufting-warps may be employed, these warps being under control of Jacquard mechanism, so as to follow the course demanded by the desired pattern to be produced. By this means any desired one of the set of warp-threads controlled by each guide may be used to form the crossing-thread from one fabric to the other, each of the threads not in use floating in proximity to the backing fabric to which it was last bound until it is again called by

the jacquard to be bound into the opposite fabric.

Where a tufting-thread is used in making several successive stitches it will pass directly across from one fabric to the other; but when such thread is out of use for some time it will, when next called upon, be drawn across from fabric to fabric at a more or less acute angle, as shown in Fig. 1, and when the threads connecting the two backing fabrics are severed these diagonal threads will be longer than the straight threads, the long ends being removed by any suitable shearing apparatus. Although the double fabric is not adapted for use in that form, it still constitutes a novel article of manufacture and sale, and may in many cases be sold in that form by the manufacturer to another manufacturer provided with proper facilities for severing the double fabric and shearing and finishing the cut-pile surfaces of the single fabrics thus produced; hence I have presented claims for the double fabric.

It has not been deemed necessary to illustrate further than in Fig. 1 mechanism for producing the fabric, as this is fully described and shown in my application above referred to.

I claim as my invention—

1. As a new article of manufacture, a fabric consisting of opposite webs or backings, threads looped back and forth between the said opposite backings, and binding-threads forming opposite rows of stitches, whereby said crossing-threads are tied down or secured to the opposite backings, as set forth.

2. As a new article of manufacture, a cut-pile fabric consisting of a backing A, complete in itself and having a series of rows of pile tufts or loops, and a series of rows of binding-stitches formed on the backing and engaging with said pile tufts or loops, substantially as specified.

3. A cut-pile fabric consisting of a backing A, complete in itself and having the series of tufts or loops, of the pile drawn through said backing and forming interlocked loops on the back of the same, as set forth.

4. A cut-pile fabric consisting of a backing A, complete in itself and having the series of tufts or loops drawn through said backing, forming interlocked loops on the back of the same, and tied down or secured to said backing by binding-threads, forming rows of stitches, as specified.

5. A fabric consisting of opposite webs or backings and tufting-threads confined to said backings and crossing from one backing to the other, the crossing being direct where the threads appear in the pattern, but the threads extending diagonally from one backing to the other where they do not appear in the pattern, all substantially as specified.

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

CHARLES H. LANDENBERGER.

Witnesses:

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