

J. Bickford,
Fabric.

No. 84,473.

Patented Dec. 1. 1868.

Fig. 1

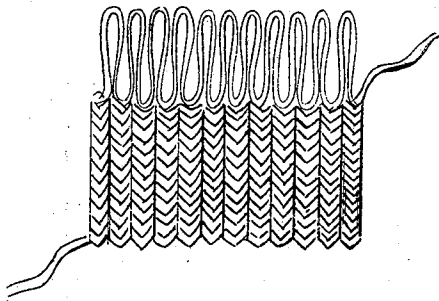
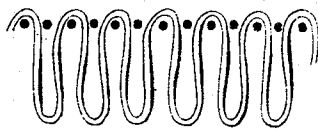


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

DANA BICKFORD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN KNITTING PILE FABRICS.

Specification forming part of Letters Patent No. 84,473, dated December 1, 1868.

To all whom it may concern:

Be it known that I, DANA BICKFORD, of the city of Boston, county of Suffolk and State of Massachusetts, have invented a new and Improved Process of Knitting upon Knitting-Machines, and an improved fabric made by said process; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention consists in a new process of knitting upon rotary and straight-framed knitting-machines, whereby I am enabled to make upon a machine fabrics which have hitherto been hand-made, or not made at all; and also in a new fabric, the result of my process.

In the drawings, Figure 1 illustrates my improved fabric, and Fig. 2 the manner of laying the loops.

It is well known that in hand-knitting and crocheting fabrics are sometimes made with loops here and there upon the surface; but in making such work the loop must be formed just at the period when it singly is to be fastened in, and connected with, the body of the fabric, and such loop is fastened by its next adjacent stitch or stitches in the same row or course.

Looped fabrics have also been made upon straight-framed machines by employing for the loops different yarns from those employed for the body of the fabric. They have also been made by supplying an independent yarn for as many looping devices as there are needles employed, and also by leaving breaks or gaps in the regular course of stitches by having every other needle, or otherwise, a blank.

By my new method or process of knitting such goods upon a circular machine, I am enabled to form, with the same yarn that is employed to knit the body of the fabric, a series of loops across the whole width or circle of the fabric being knitted, and while the machine is at rest, and before binding any of them to the fabric, and then put the machine in operation, and knit over these loops as they hang from the needles the next course in order of regular knitting, and so bind the loops to the previously-knitted portion, such row

of loops lying between two rows of regularly-knitted stitches, and alternating with them or not, as may be desired.

The manner of effecting this is as follows: I employ any rotary machine, but for some purposes preferably a reversible one, such as in my application now pending in the Patent Office, provided it has no devices within the needle-ring to interfere with the proper control and management of the yarn; but I give the preference to such as employ reciprocating latch-needles and a thread-carrier arranged to travel around the needle-ring.

In order to make a web having two selvage edges, and with a tufted or piled surface on one side of the fabric, I leave out of the machine all the needles except what may be sufficient to form the breadth of goods desired, and having set up or started the work in the usual manner, I revolve the machine to make one or two or more rows, at option, and then, by hand, take the same thread and run it back in and out between the needles in a zigzag form, either regularly between all of the needles, or around two and over one, or in any other way, taking care, in so doing, to hold, with the other hand, loops of such length as may be wished, these loops of the yarn extending from the fingers back to the needles, over which it has just been laid. When this has been done, (and with a practiced hand it can be very expeditiously accomplished,) the machine is continuously revolved, and another course of regularly-knitted stitches formed directly over this zigzag layer of thread, whereby the same becomes interlaced with, and bound by, the stitches last made. This process is then continued in the same manner until the work is done.

When the whole circular series of needles is employed, and the same process pursued, a tubular tufted fabric is produced, the tufts of which are within the tube. By turning the tube, when finished, inside out, the material is furnished for a muff or other similar article.

The loops so made may, if desired, be cut, and, if preferred, combed also, so as to resemble fur.

I claim the process herein described of knitting tufted or piled fabric, the same consisting in laying between the regular courses of stitches, after a course has first been knitted, a course

of loose loops, formed from a continuous yarn, and then binding this last course in place by a succeeding course of regular stitches.

I also claim, as a new article of manufacture, a knitted fabric in which, after a course of stitches is knitted, a course of loops formed from a continuous yarn is next deposited up-

on this row of stitches, and then another course of stitches knitted over the same, to bind and hold to place the loops or tufts.

DANA BICKFORD.

Witnesses:

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