

No. 777,048.

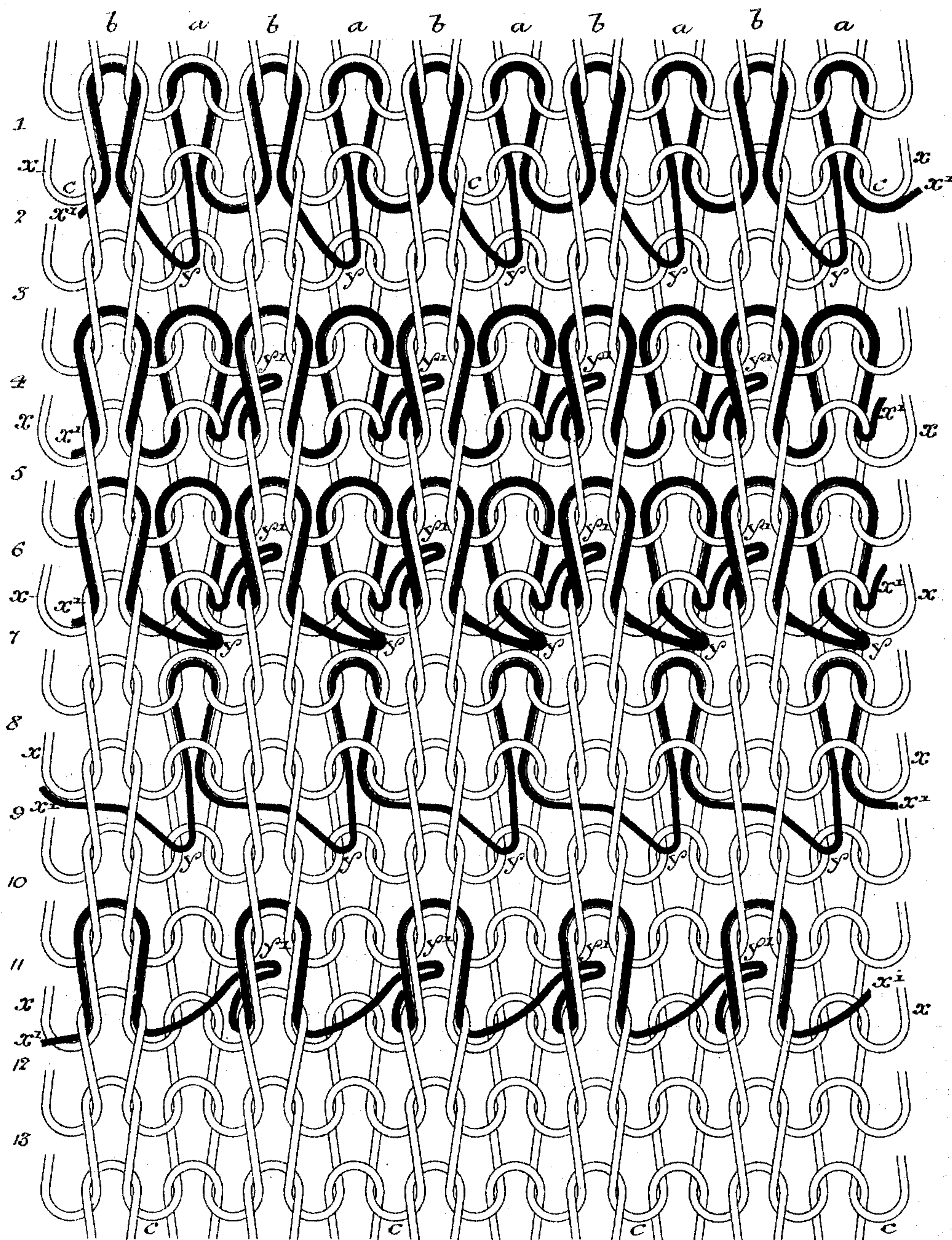
PATENTED DEC. 6, 1904.

R. W. SCOTT.  
RIBBED KNITTED FABRIC.  
APPLICATION FILED FEB. 25, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:-

Herman E. Metcalf.  
F. E. Bechtold

Inventor:-

Robert W. Scott.

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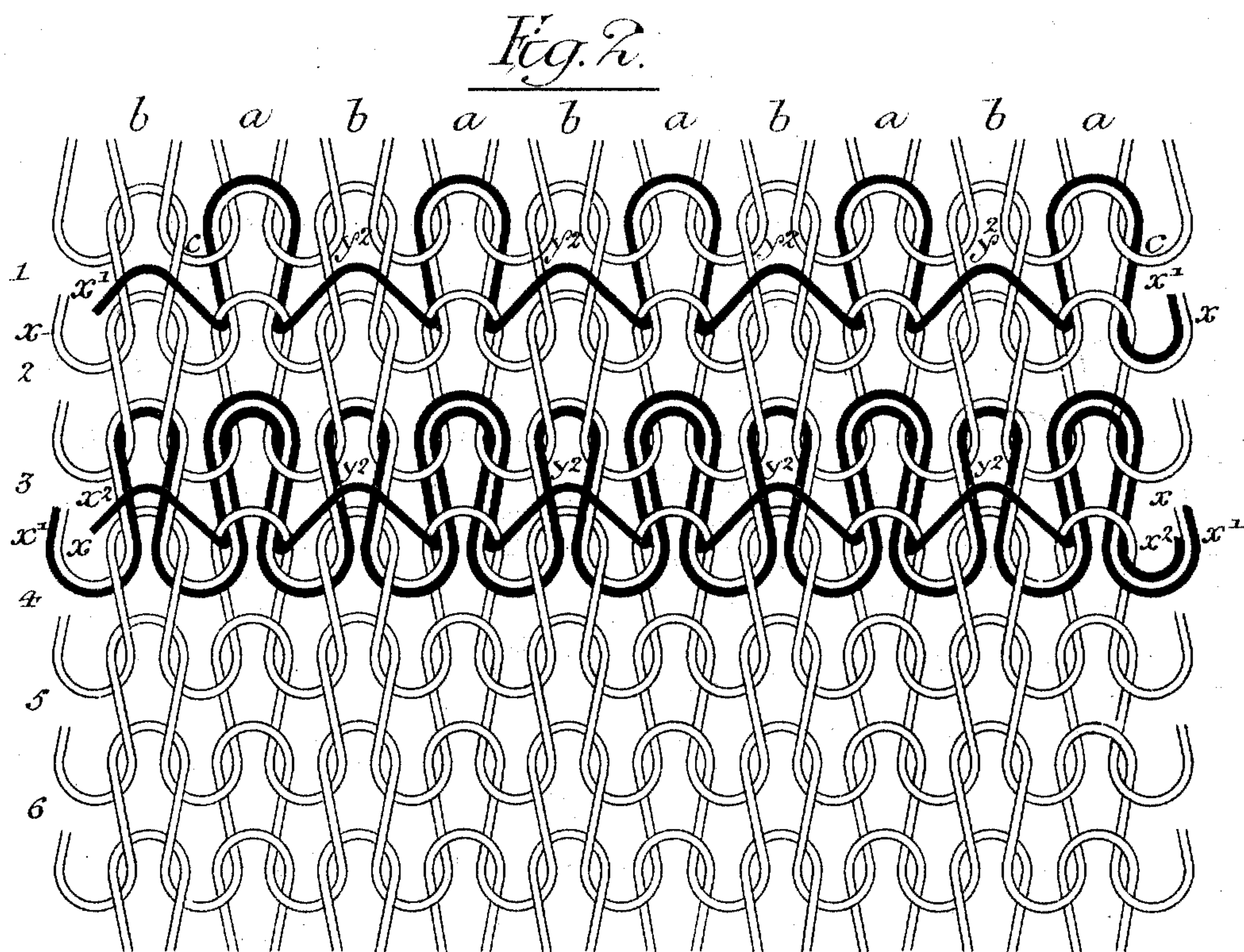
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NO MODEL.

2 SHEETS—SHEET 2.



Witnesses:-

Titus H. Irons.  
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Inventor:  
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# UNITED STATES PATENT OFFICE.

ROBERT W. SCOTT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO LOUIS N. D. WILLIAMS, OF ASHBOURNE, PENNSYLVANIA.

## RIBBED KNITTED FABRIC.

SPECIFICATION forming part of Letters Patent No. 777,048, dated December 6, 1904.

Application filed February 25, 1902. Serial No. 95,506. (No specimens.)

*To all whom it may concern:*

Be it known that I, ROBERT W. SCOTT, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain  
5 Improvements in Ribbed Knitted Fabrics, of which the following is a specification.

My invention consists of a ribbed knitted fabric having a looped or pile surface capable of being fleeced or brushed, the loops which  
10 form said pile-surface being formed by one of the strands of a composite knitting-yarn and not, as heretofore, from a supplementary yarn engaging with the wales formed by said main knitting yarn or yarns.

15 Heretofore plain knit fabrics have been provided with a pile-surface by forming loops from one of the strands of a composite main knitting-yarn; but fabrics of this character are comparatively inelastic, and consequently  
20 their range of usefulness is quite limited.

When in knitting a plain fabric an elongated loop is cast off of a heddle of the machine, together with the loop of ordinary length, both of the loops will be thrown to  
25 the back of the fabric; but in knitting a ribbed fabric the simple elongation of the loop of one strand of the composite knitting-yarn would result in the casting of said elongated loop between the front and back wales of the  
30 fabric, so that it could not be acted upon by the brush used to form the fleece. In carrying out my invention, therefore, I project one or more of the strands of the composite knitting-yarn between the wales of that face of  
35 the fabric selected for the pile-surface, so as to form loops extending beyond said wales, whereby said loops can be brushed without injury to the body-wales of the fabric.

In producing my improved fabric I use a  
40 machine having loopers or sinkers so arranged that they can act upon one of the strands of the composite knitting-yarn without acting upon the other strand or strands of the same.

The figures in the accompanying drawings  
45 represent, on an exaggerated scale, pieces of ribbed knitted fabric and illustrate various methods of carrying out my invention in the production of such fabric.

In the drawings, 1, 2, 3, 4, and so on rep-

resent successive courses of the fabric. *a* and 50  
*b* represent adjoining needle-wales of the same, and *c* the sinker-wales, the stitches in the needle-wales *a* being drawn in one direction or to one face of the fabric, the stitches in the needle-wales *b* being drawn in the oppo- 55  
site direction or to the other face of the fabric, and the yarn in the sinker-wales extending from wales of one face of the fabric to wales of the other face, as is usual in ribbed knitted fabric. The knitting-yarn employed, 60  
however, is a composite yarn having in the fabric shown in Figure 1 two strands *x* and *x'*, these strands being controlled by independent yarn-guides or one guide with two feed- 65  
holes, so that one strand can be acted upon independently of the other. In course 1 of the fabric the strand *x'* is projected from the composite yarn where the same forms sinker-wales *c*, so as to form loops *y*, which project outwardly beyond the wales *b* in or- 70  
der that they can be readily brushed without injury to the knitting-yarn constituting the said wales, these loops being formed by applying the strand *x'* of the knitting-yarn to a projecting looper or sinker in its course 75  
from the needle which produces the wale *b* to the needle which produces the wale *a*. In course 4 the strand *x'* of the knitting-yarn is projected so as to form loops *y'* on the opposite face of the fabric from that on which the 80  
loops *y* are formed, the operation being the same except that the loopers or sinkers draw the loop in the opposite direction from those which formed the loops *y*. In course 6 I have illustrated the formation of loops on both 85  
faces of the fabric, and in course 8 I have shown the loops *y* as being formed from the strand *x'* of the knitting-yarn; but this strand does not form stitches in the wales *b* of the fabric, the yarn-guides in this case being so 90  
arranged that the guide which controls the strand *x* will feed the same to both sets of needles; but the guide which controls the strand *x'* will feed the same only to the needles which produce the wales *a* and to the sinkers 95  
or loopers, this strand passing behind or out of the path of the other set of needles, which produce the wales *b*. In course 11 I have



shown the strand  $x'$  of the knitting-yarn as forming loops  $y'$  without forming stitches in the wales  $a$  of the fabric. The yarn-guide controlling strand  $x'$  in this case feeds said yarn to the needles which form the wales  $b$  and to the sinkers or loopers, but lays said strand  $x'$  behind or out of the path of the needles which form the wales  $a$ .

A composite knitting-yarn otherwise disposed, as in courses 8 or 11, may be caused to form loops on both faces of the fabric by subjecting its strand  $x'$  to the action of loopers disposed in every one of the spaces between the needles instead of only in every other space.

In course 1, Fig. 2, I have shown an arrangement of the strands very similar to that shown in course 8, except that the loops  $y^2$  overlap wales  $b$  instead of being drawn out between the wales  $a$  and  $b$ , and in course 3 is shown a similar fabric, in which, however, each composite yarn is composed of three strands  $x$   $x'$   $x^2$  instead of two strands, the strand  $x^2$  being the one which forms the loops.

In course 6, Fig. 2, I have shown various means of carrying out my invention by simply elongating one of the strands of the composite yarn in the formation of the stitch, this strand being drawn into a longer loop  $y^3$  than the other strand of the yarn in the formation of the stitch. This form of loop can be produced by employing two needles side by side, one capable of greater draft than the other, each needle receiving its respective strand of yarn in forming the course in which the elongated loops are to be drawn, one needle drawing a longer loop than the other and both needles receiving the composite yarn and having the same extent of draft in forming the next course.

For greater clearness of illustration I have shown in the drawings the employment of the multiple-strand knitting-yarn only in those courses of the fabric in which the fleecing-loops are formed, although in practice the multiple-strand knitting-yarn will usually be employed in every course in order to produce a uniform fabric.

It is to be understood that although I have shown the invention as applied to the production of a plain-ribbed fabric, it is clearly applicable to the production of knitted fabrics

in tuck-stitch, the location and disposition of the fleecing-loops in the latter case not varying materially from those shown in the drawings.

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

1. A ribbed knitted fabric having loops formed from a multiplicity of strands, some of said strands being looped longer than the others, and said elongated loops projecting beyond the wales of each face of the fabric, substantially as specified.

2. A ribbed knitted fabric having loops of either face formed from a multiplicity of intermeshed strands, some of said strands being projected from the sinker-wales of said face of the fabric to form loops projecting beyond the needle-wales of said face and overlapping the backs of the needle-wales of the other face of the fabric, substantially as specified.

3. A ribbed knitted fabric having loops formed from a multiplicity of strands, some of said strands being projected from the sinker-wales of the fabric so as to form on each face of the fabric loops projecting beyond the wales of said face, substantially as specified.

4. A ribbed knitted fabric having loops formed from a multiplicity of strands, some of said strands forming loops in both sets of needle-wales of a course, and the other strand or strands forming loops in but one set of needle-wales of the course, and being projected between the full strand-wales so as to form loops extending beyond the wales of either face of the fabric, substantially as specified.

5. A ribbed knitted fabric having loops formed from a multiplicity of strands, some of said strands forming loops in both sets of needle-wales of a course, and the other strand or strands forming loops in but one set of needle-wales of the course, and being projected between the full-strand wales so as to form loops extending beyond the wales of each face of the fabric, substantially as specified.

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

ROBERT W. SCOTT.

Witnesses:

WALTER CHISM,  
JOS. H. KLEIN.