

June 23, 1942.

O. F. SMETANA
KNITTED FABRIC

2,287,143

Filed July 25, 1940

2 Sheets-Sheet 1

Fig. 1

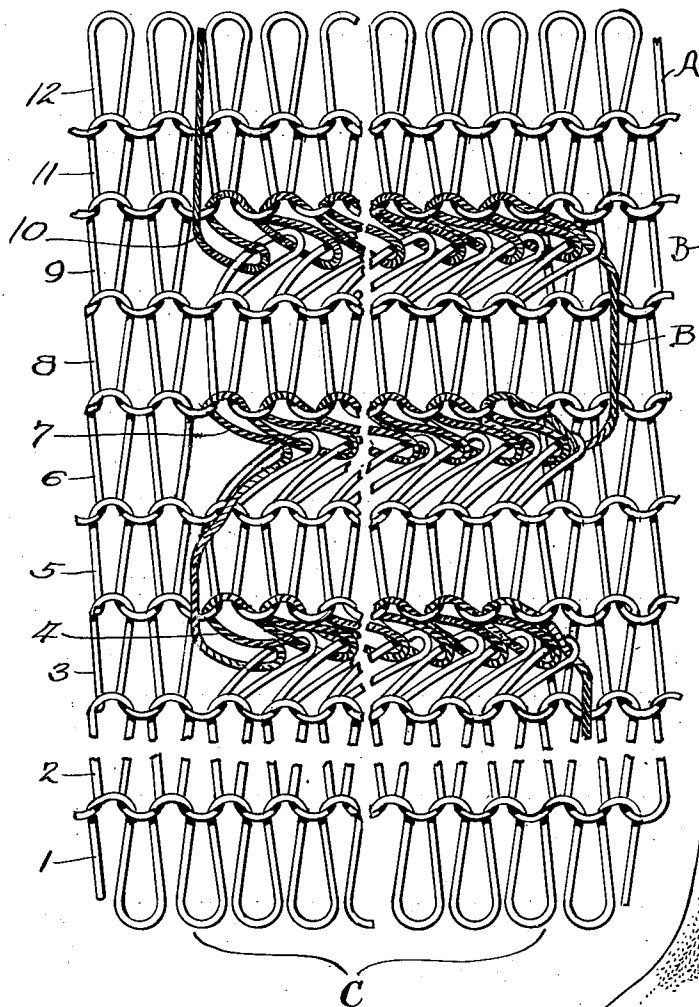
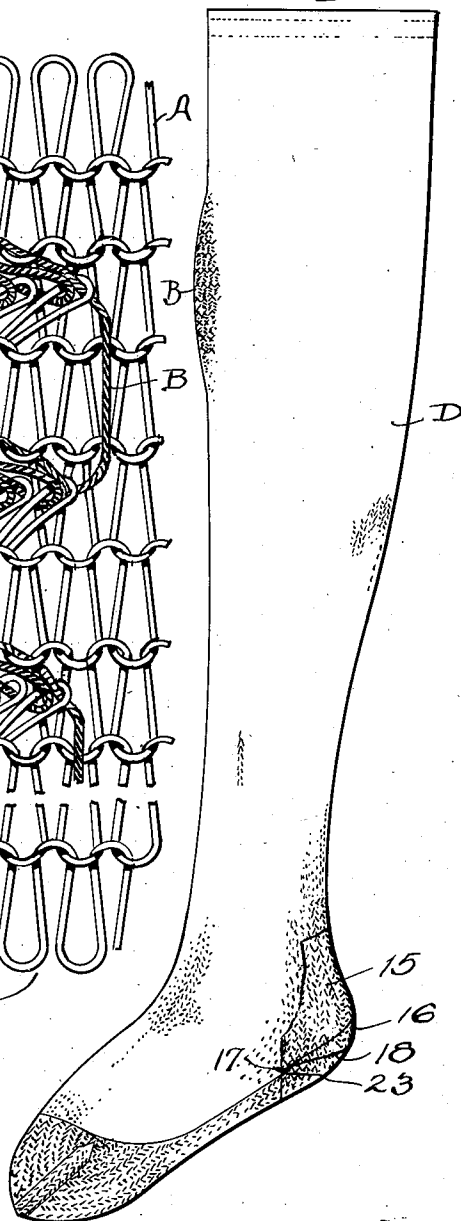


Fig. 2



Inventor
Otto F. Smetana

By *Gifford, Saul & Burges*
Attorney

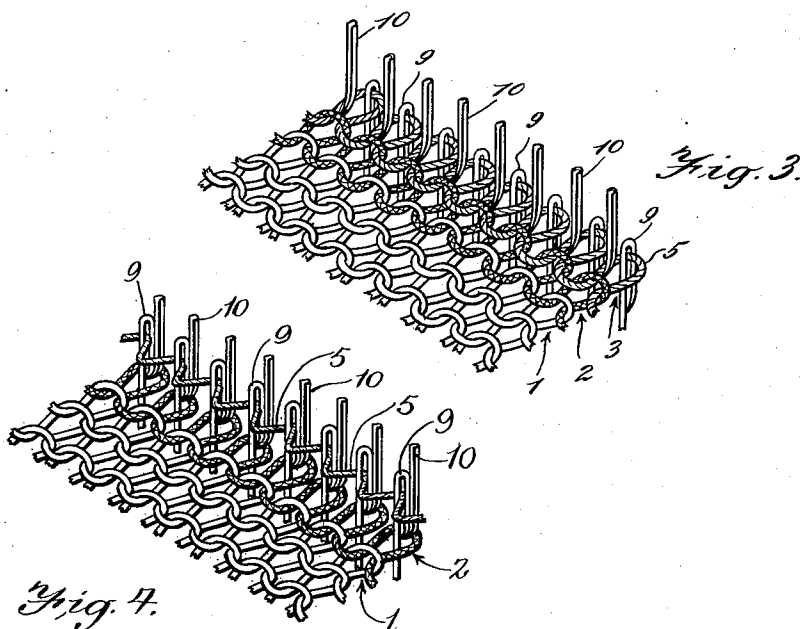
June 23, 1942.

O. F. SMETANA
KNITTED FABRIC

2,287,143

Filed July 25, 1940

2 Sheets-Sheet 2



INVENTOR.

OTTO F. SMETANA

BY

Gifford, Scull & Ringer,
ATTORNEYS

UNITED STATES PATENT OFFICE

2,287,143

KNITTED FABRIC

Otto F. Smetana, Concord, N. C., assignor of one-half to Ernest A. Feustel, Hasbrouck Heights, N. J.

Application July 25, 1940, Serial No. 347,393

4 Claims. (Cl. 66—178)

This invention relates to a novel and improved form of knitted fabric and to a novel and improved method of forming such a fabric. The invention will be better understood from the following description and the annexed drawings, in which I have shown selected embodiments of the fabric and of the method of forming it.

In the drawings:

Fig. 1 is a diagrammatic view of a piece of fabric knit according to the invention;

Fig. 2 is a side view of a stocking, illustrating one use for such fabric;

Fig. 3, a diagrammatic view illustrating the method of forming the fabric of Fig. 1, and

Fig. 4, a view illustrating the application of the invention to the heel pocket of a stocking.

Referring first to Fig. 1, I have shown therein a piece of fabric formed of courses and wales of loops and having a section thereof knit according to my invention. The courses 1 and 2 are formed in the usual way and need no further description. The course 4 however is not a full course from selvage to selvage of the stocking blank but extends over only a part of the wales, and is knitted with a yarn B other than the regular or main yarn A. Yarn B may differ in color or weight from yarn A or it may have the same characteristics.

For convenience, the part of the fabric in which an extra yarn is knit and which is defined by the dimension C of Fig. 1 will be referred to as a section of fabric. In Fig. 1, this section is spaced from both sides of the fabric, although that is not necessary, as will be illustrated later. It will also of course be understood that the section may be of any size or shape, although for the purpose of illustration it is shown as extending over only a few courses and a few wales in Fig. 1. In courses 5 and 6 knitting is resumed with the regular yarn A and then another short course 7 is knitted with yarn B, followed by full courses 8 and 9 of yarn A, a short course 10 of yarn B, full length courses 11 and 12 of yarn A and so on as may be desired.

For purposes of illustration I have assumed that after one extra course is formed with the extra yarn B for a predetermined number of wales, two courses are knit in the regular way and then the same extra yarn or, if desired, another extra yarn may be used to form another extra course, as shown at 7. A short course of yarn B may follow each full course in a section of cloth, or the sequence of long and short courses may be otherwise varied.

It will be seen that the result of the above

procedure is to form a fabric which, for a certain section or, in other words, for a certain predetermined number of wales in the width of the fabric, will be formed with one or more additional courses, preferably with a plurality of such additional courses formed of an extra yarn, whereas the rest of the fabric is formed of regular yarn, which may be the single yarn or a plurality of yarns, as known in the art. When the fabric is completed with a section of the kind just described, the section is one having an accordion effect, in that there is more fabric in that section than in the body of the fabric alongside the section.

The fabric therefore is of use where any extra length or extra amount of fabric is required over a certain area. For example, the arrangement illustrated in Fig. 1 may be used conveniently in forming the knee of a stocking as illustrated in Fig. 2 where the stocking D has an enlarged portion E at the knee, whereby the flexing of the knee of the user does not strain the stitches, as is the case when the fabric has to stretch as the knee is bent and in fact it may be used in any place where a bend or a pocket is desired in a knitted fabric.

Referring now to Figs. 2 and 3, I have shown the method by which I prefer to form the fabric of Fig. 1. Here again I have elected eight wales as an example, although that is not intended as a limitation of any kind.

In Figs. 2 and 3, I have illustrated the manner in which the course 3 of Fig. 1 may be formed through the section c. In Fig. 2, the courses 1 and 2 are shown as already formed, the loops of the course 2 being still on the needles 9. I have shown these loops crosshatched in Figs. 2 and 3, since these are the loops which are treated in the novel manner now to be described, and I have shown the extra yarn 5 shaded in the same manner as in Fig. 1. This extra yarn 5 is shown in Fig. 2 as having been laid in place by a suitable carrier arm (not shown) known in the art and as having been engaged beneath the beads of the needles and having had the sinker loops formed therein.

Associated with each of the eight needles 9 which are shown in Figs. 2 and 3 is a point 10 of the same general character as the transfer points well known in this art and, after the loops in the course 2 are formed, the points 10 are lowered to engage those loops and lift them above the bights of the needles. Then these points deposit the loops which they have previously engaged back of the needles, as indicated in Fig. 3,

in which position they will engage the extra yarn 5 in the sinker loops of that yarn.

While the extra yarn is being laid, the carrier or carriers for the regular yarn or yarns may be held out of operation or at least out of operation across the section 6 and then, after the extra yarn is laid across that section, its carrier is thrown out of operation and then the regular yarn is once more laid and knitted in the usual way. It will of course be understood that while the extra yarn is being knitted to form the extra course just described, the loops of regular yarn at the side or sides of the section will be held in place on their needles and then when the knitting with that regular yarn is resumed it will engage those regular loops at the side or sides of the section and will also engage the loops of the extra thread which are now upon the selected needles 9.

In Fig. 4, I have shown another and particular use of the invention in forming the heel pocket of a flat knitted stocking. In that figure, I have shown two courses 11 and 12 of a leg of a stocking. Then the regular yarn in the course 13 is formed into a predetermined number of loops ending at the loop 14. These loops may be held on their needles, while the loop 15 of extra yarn is knitted in the manner described above, using one point, this point engaging the loop 16 and depositing it back of the needle forming the loop 15. For example, this may conveniently be done by having a bar with several points and having the bar so placed that only one of these points will engage the loop 16. Then the bar may be moved inwardly so that the two points thereon may operate upon the newly formed loop 15 and also upon the loop 17, and the loops 18 and 19 may be formed. Then the bar may be moved inwardly so that another point will come into operation and the method may be repeated until finally the loop 20 is formed of extra yarn. Then the regular yarn may be used to form a series of loops 21 engaging the extra yarn, the

extra yarn forming the heel pocket. In a word, Fig. 4 shows a section which is triangular in form instead of rectangular in form as in Fig. 1 and it will be understood that other shapes and forms of sections may be easily knitted with this invention. After the loops 21 are formed, then the knitting of the stocking may proceed to form the foot.

While I have illustrated the invention as embodied in certain forms and practiced by a certain method, it will be understood that changes in details may be made from the described embodiments and method without departing from the scope of the invention as defined in the appended claims.

I claim:

1. A flat-knitted fabric comprising full courses of a main yarn, and having a bulged enlargement spaced from the selvages of the fabric, said enlargement including short courses of other yarn, said short courses being each formed between full courses of the main yarn.

2. A flat-knitted fabric comprising full courses of a main yarn, and having a bulged enlargement including short courses of other yarn, said short courses being each formed between full courses of the main yarn, said short courses terminating at points remote from the selvages of said fabric.

3. A knitted fabric as in claim 2, in which said short courses are knitted from an additional yarn which is floated, from one short course to the next, across the intervening courses of the main yarn.

4. A flat-knitted stocking having a rear seam, said stocking comprising full courses of stitches of a main yarn and having a panel-like enlargement spaced from said rear seam and including short courses of stitches of other yarn, said short courses being interspersed between full courses of the main yarn.

OTTO F. SMETANA.