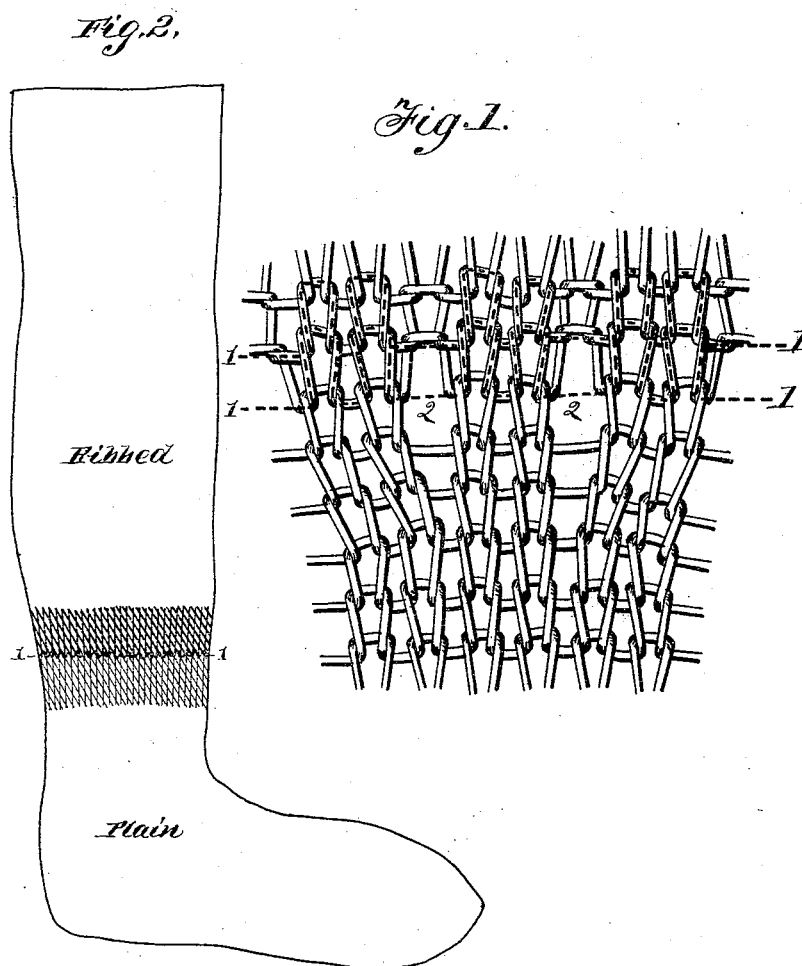


(No Model.)

A. BOEHMEN.
ART OF KNITTING FABRICS.

No. 454,795.

Patented June 23, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

ADOLPH BOEHMEN, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE ROCKFORD MITTEN AND HOSIERY COMPANY, OF SAME PLACE.

ART OF KNITTING FABRICS.

SPECIFICATION forming part of Letters Patent No. 454,795, dated June 23, 1891.

Application filed November 19, 1888. Serial No. 291,286. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH BOEHMEN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in the Art of Knitting Fabrics, of which the following is a specification.

The object of this invention is to produce by a machine knitted fabric having a plain and a ribbed portion without exhibiting flaws or imperfections at the connection between the plain and ribbed work; and it consists, essentially, in the method hereinafter more fully described, and pointed out in the claims.

It will be found that in attempting to add a ribbed fabric to a plain fabric by the operation of an ordinary knitting-machine in the usual manner a series of holes will be formed at the junction of the ribbed work and plain work, and it is to obviate this defect that my improvement in the art of manufacturing machine-knitted fabrics has been made.

Figure 1 is a view of a piece of knit fabric in which, at the junction of the plain knitted portion and ribbed knitted portion, an extra yarn 1 is run in to close the openings. Fig. 2 represents a stocking having a plain knitted foot portion and a ribbed leg portion, at the joining of which the yarn 1 is run in to close the openings.

My mode of knitting fabrics consisting of plain and ribbed portions joined together is as follows: Having knitted a plain portion of the fabric on the vertical needles of any suitable machine to the point where it is desired to connect the ribbed work, I throw the ribbing-needles into action and cause the combined vertical and ribbing needles to operate on the original yarn for the purpose of knitting the rib portion of the fabric, and when the ribbing-needles are first thrown in each one begins a new wale or row of stitches, and in forming the first stitch of this new row draws the yarn to one side and leaves an eyelet-hole. Consequently at the time the ribbing-needles are thrown into action I feed an extra yarn (shown at 1) to the vertical needles only, which will continue to knit the plain part of the fabric for a number of courses until the openings 2, usually found in such work at the junction of the plain and ribbed

knitted produced by the change from the plain to the ribbed knitting, are closed. Then the extra yarn 1 will be broken and the ribbed knitting will be continued. When the extra yarn is fed to the vertical needles, these needles will also be knitting the yarn used for the ribbed portion of the fabric, and while the ribbed knitting is going on this extra yarn, not being drawn to one side by the ribbing-needles, will be knitted into the fabric, so as to fill the openings.

In tubular work—such as stockings, mittens, undershirts, and drawers, where a ribbed portion is knitted to a plain portion—the operation is as follows: Having knitted a plain portion on any suitable machine which is provided with adjustable ribbing devices, so that the ribbing-needles may easily be thrown in and out of action, using only the vertical needles on the plain portion of the fabric, I then throw the ribbing-needles into action and cause the combined vertical and ribbing needles to operate for the purpose of knitting the ribbed portion of the work.

The plain portion may be knitted on a separate machine and then transferred in the usual manner to the vertical needles of a ribbing-machine.

It is obvious that without changing the nature of the invention the extra yarn might be fed in, so as to be taken up by the vertical and ribbing needles while the original yarn was only operated upon by the vertical needles. In this case the original yarn would be broken after the junction-courses had been knit.

I claim as my invention—

1. The improvement in the art of knitting fabrics, consisting in first knitting the plain work upon one set of needles of a rib-knitting machine—as, for instance, the vertical needles—then throwing the ribbing-needles into operation and at the same time feeding in an extra yarn in such a manner that one yarn will be fed to the vertical needles only and the other yarn to both sets of needles, and continuing the knitting on both sets of needles, substantially as set forth.

2. The improvement in the art of knitting fabrics, consisting in first knitting the plain work upon one set of needles of a rib-knitting

machine—as, for instance, the vertical needles—then throwing the ribbing-needles into operation and at the same time feeding in an extra yarn in such a manner that one yarn
5 will be fed to the vertical needles only and the other yarn to both sets of needles and knitting one or more rounds or courses with both yarns, then breaking the yarn that is being knitted
10 on the vertical needles only, and continuing the knitting of the remaining yarn on both sets of needles, substantially as set forth.

3. The improvement in the art of knitting fabrics, consisting in first knitting the plain work upon one set of needles of a rib-knitting
15 machine—as, for instance, the vertical needles—then throwing the ribbing-needles into operation, then feeding in an extra yarn to the vertical needles only and knitting one or more rounds or courses on both sets of needles, then

breaking the extra yarn, and continuing the
20 knitting on both sets of needles, substantially as set forth.

4. The improvement in the art of knitting stockings, consisting of a plain knitted portion and a ribbed knitted portion, consisting
25 in first knitting the plain work upon one set of needles of a rib-knitting machine—as, for instance, the vertical needles—then throwing the ribbing-needles into operation and at the
30 same time feeding in an extra yarn in such a manner that one yarn will be fed to the vertical needles only and the other yarn to both sets of needles, and continuing the knitting on both sets of needles, substantially as set forth.

ADOLPH BOEHMEN.

Witnesses:

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