

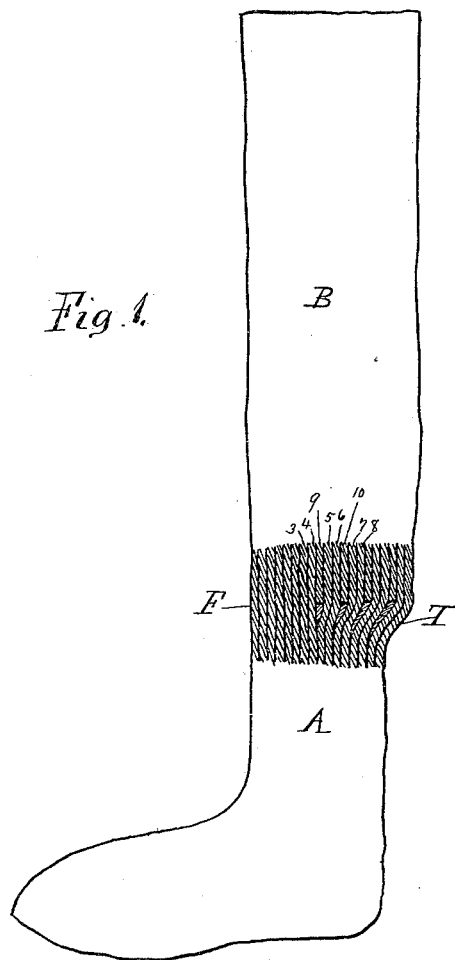
(No Model.)

2 Sheets—Sheet 1.

W. ZIOCK.  
METHOD OF KNITTING FABRICS.

No. 491,460.

Patented Feb. 7, 1893.



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Fig. 2.

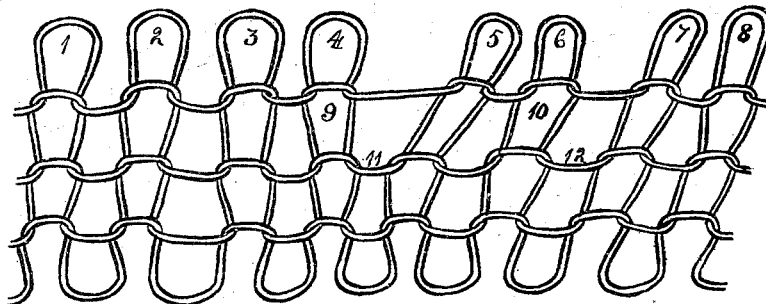


Fig. 3.

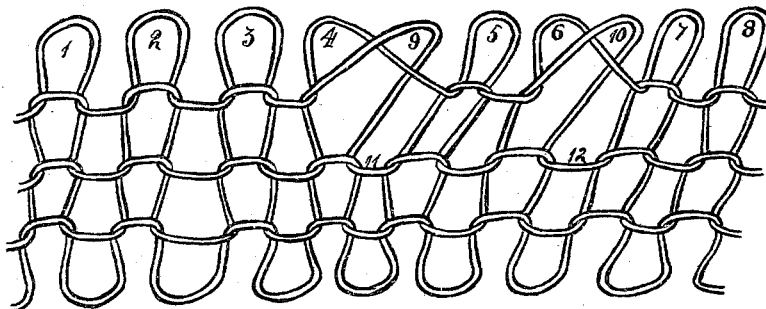


Fig. 4.

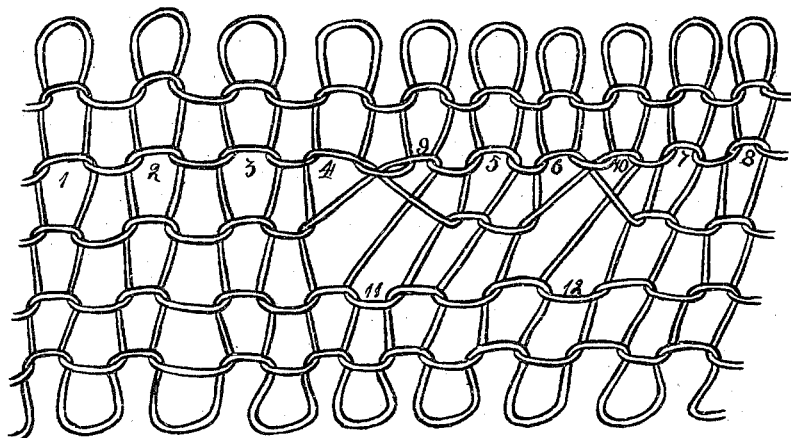
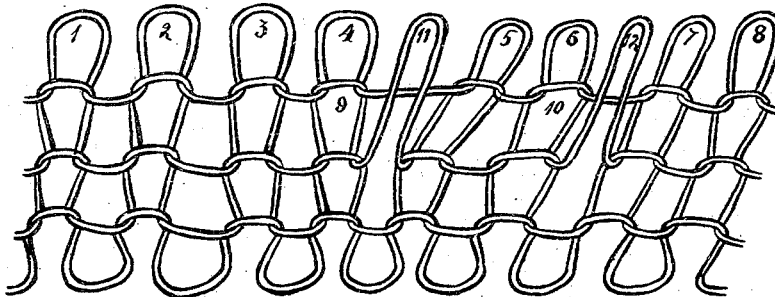


Fig. 5.



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# UNITED STATES PATENT OFFICE.

WILLIAM ZIOCK, OF ROCKFORD, ILLINOIS, ASSIGNOR TO THE ROCKFORD MITTEN AND HOSIERY COMPANY, OF SAME PLACE.

## METHOD OF KNITTING FABRICS.

SPECIFICATION forming part of Letters Patent No. 491,460, dated February 7, 1893.

Application filed September 19, 1892. Serial No. 446,261. (No model.)

*To all whom it may concern:*

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

The object of this invention is to knit fabrics having an enlarged portion, so that a taper from the smaller portion to the larger portion may be produced without holes.

In the accompanying drawings—Figure 1 is a representation of a stocking showing the enlarged portion of the leg, produced by my process. Figs. 2, 3 and 4 are representations of a section of the knit fabric showing the various steps of knitting by my improved process. Fig. 5 shows a modification.

I will explain my process in connection with knitting stockings.

In knitting stockings it is desirable to have the leg portion of two sizes, the smaller size A for the ankle and the larger size B for the calf portion of the leg, and so to unite these portions that a taper or enlargement T may be had without leaving holes in the stocking at such junction. I accomplish this by first knitting the foot and ankle portion of the stocking, this lower portion of the stocking being knit on, say eighty needles. The lower portion of the stocking is then placed onto a machine having, say, one hundred needles by placing forty stitches at the upper end of the web upon forty needles at the front of the one hundred needle machine, leaving forty stitches to be distributed over the remaining sixty needles, then to divide the forty stitches into twenty groups of two each, which, when applied to forty needles leave twenty extra needles to alternate with said groups and to be filled as hereinafter set forth, and the knitting is then continued, which will produce the enlargement of the stocking, having, when properly boarded and finished, a graceful outline.

In the drawings Fig. 2 shows a section of the upper part of the ankle portion of the stocking, consisting of the loops 1 to 8 inclusive, and in which each loop corresponds to a needle. It will be seen that there is a space

for a needle between the loops 4 and 5 and the loops 6 and 7, and the cause of this is that the loops 5 and 7 are drawn out and placed upon the second needle, leaving one needle not occupied. This is done in order that the eighty loops may be distributed over eighty needles of the machine employing one hundred needles, and the unfilled needles are left in the back half of the stocking in order that the front half of the stocking may be straight while the back half will be enlarged to accommodate the calf of the leg.

At Fig. 3 of the drawings loops 9 and 10, which were the second loops under loops 4 and 6, are drawn out and placed over the unfilled needles between the loops 4 and 5 and the loops 6 and 7. I then have ten loops of the calf portion of the stocking, placed upon ten needles. This is continued until all of the needles of the machine employing one hundred needles have been provided with a loop. The knitting is then continued on the one hundred needles until the required length of the leg of the stocking has been made, and a portion of the complete fabric is shown at Fig. 4.

It will be noticed that if the loops 9 and 10 were not placed upon the unfilled needles, holes would be formed in the complete stocking, which would impair its value.

I do not mean to limit myself to the exact location at which the loops are placed from the unfilled needles, as it is evident they may be so placed at any proper intervals to suit the manufacturer, that is, the enlargement may extend entirely around the stocking or any portion thereof.

At Fig. 1 is shown a stocking knit by my improved process, in which the front part F is knit straight, that is loop for loop is placed upon the machine having the greater number of needles, while in the back part the extra loop is formed at intervals.

At Fig. 5 I have shown the loops 11 and 12 as drawn up to receive the unfilled or extra needles, which will close the space which was made by drawing the loops 5 and 7 in order to skip a needle.

The above process of knitting stockings may be accomplished upon either a straight

or a circular machine, and may be employed to knit the leg portion of drawers and the under side of the arm portion of under shirts.

I claim as my invention—

5 1. The herein described method of knitting fabrics, consisting in knitting the smaller portion, transferring it to a greater number of needles by skipping certain needles and in placing upon each of the skipped needles  
10 a stitch which has been previously knit and continuing the knitting upon the greater number of needles.

2. The herein described method of knitting stockings, consisting in knitting the foot and  
15 ankle portion, transferring it to a greater number of needles, by skipping certain needles,

and in placing upon each of the skipped needles a stitch which has been previously knit and continuing the knitting upon the greater number of needles.

20 3. The herein described method of knitting garments, consisting in knitting the smaller portion, transferring it to a greater number of needles by skipping certain needles in a portion thereof and in placing upon each of  
25 the skipped needles a stitch which has been previously knit and continuing the knitting upon the greater number of needles.

WILLIAM ZIOCK.

Witnesses:

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C. E. HEILIGER.