

J. BLACK.
 PROCESS OF KNITTING STOCKINGS.
 APPLICATION FILED OCT. 23, 1908.

912,934.

Patented Feb. 16, 1909.

FIG. I

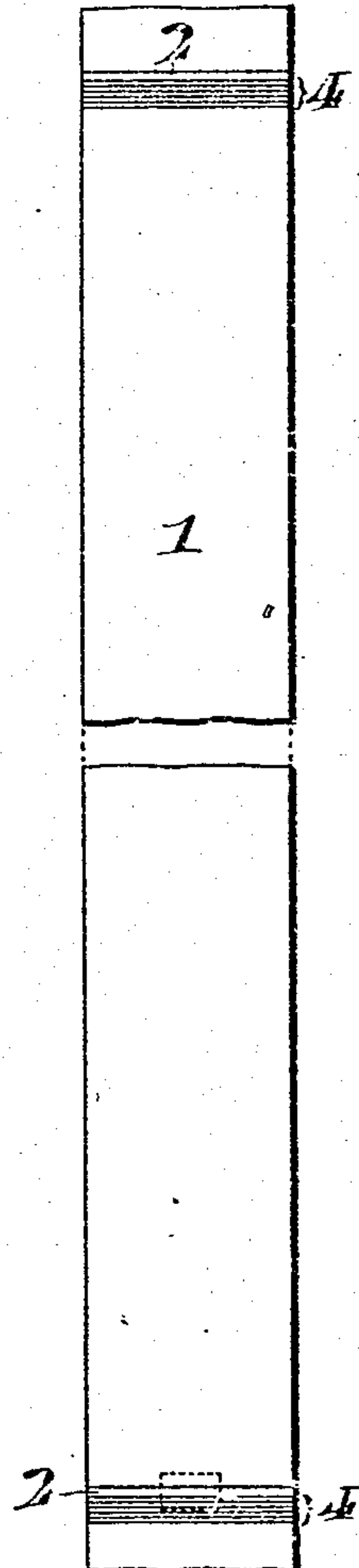
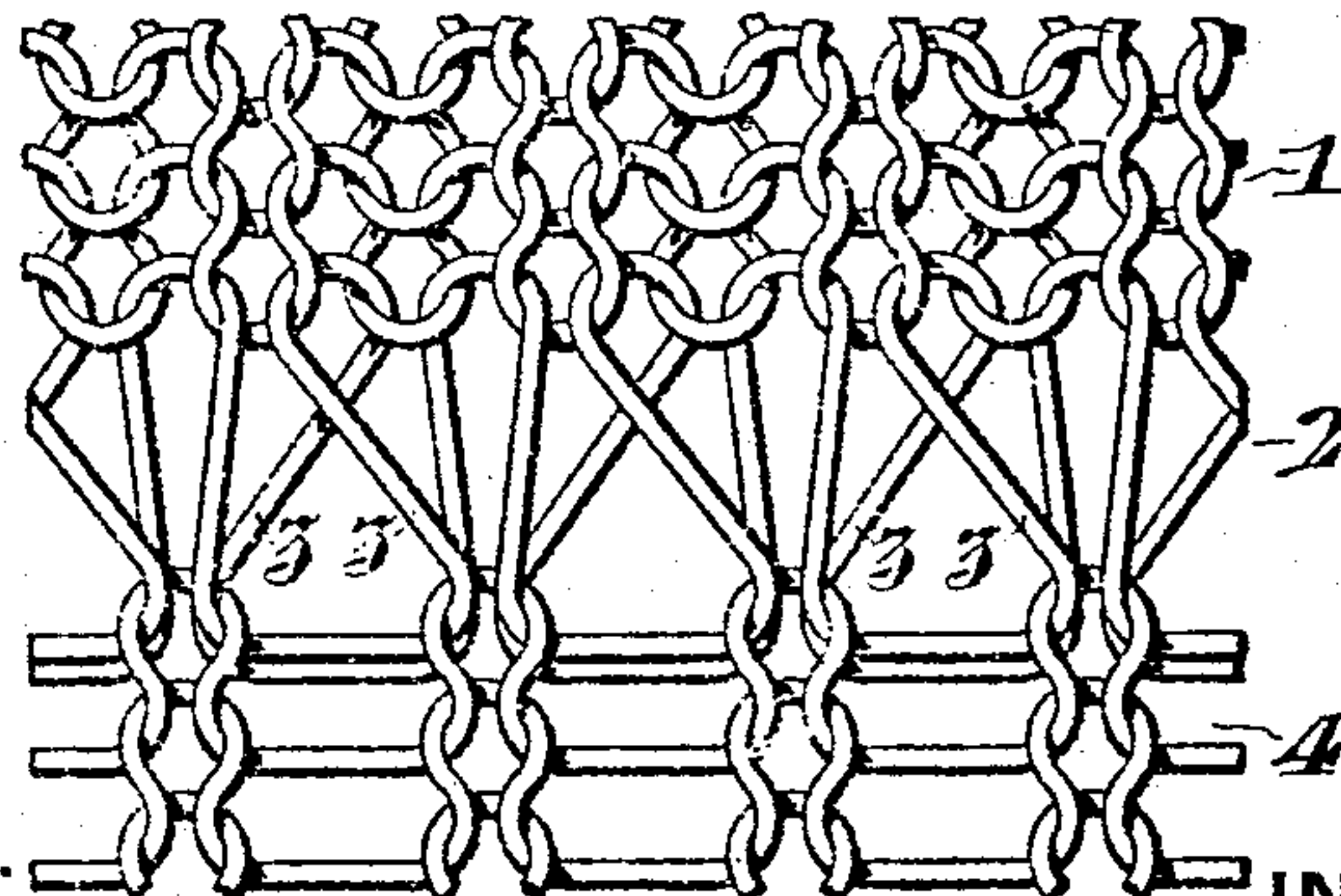


FIG. II



WITNESSES:

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JOSIAH BLACK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ELIZA VAUGHAN, OF PHILADELPHIA, PENNSYLVANIA.

PROCESS OF KNITTING STOCKINGS.

No. 912,934.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed October 28, 1908. Serial No. 459,833.

To all whom it may concern.

Be it known that I, JOSIAH BLACK, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in the Process of Knitting Stockings, whereof the following is a specification, reference being had to the accompanying drawings.

In my co-pending application Serial Number 395,682, filed October 3rd, 1907, I have described and claimed a process of manufacturing hosiery with ribbed tops according to which I employ a ribber which is provided with automatic mechanism for transferring the dial loops to the cylinder needles and thereafter producing plain tubular knitting upon the cylinder needles. According to this process I produce upon such a machine string-work consisting of alternate sections of ribbed and plain knitting, the wales of plain knitting corresponding to two wales of the rib knitting. The string-work thus produced is severed in the sections of plain knitting and manually transferred to a stocking knitter by stabbing the needles of the stocking knitter through the loops of one of the courses of plain knitting, which is preferably knit as a loose course for this purpose. The advantage which results from this process of knitting is the saving of time in the manual transfer of the work from the ribber to the stocking knitter. Owing to the greater elasticity required in the ribbed top it is necessary that this part of a stocking should have a greater number of loops than the foot portion, which must not be too elastic; so that ordinarily in making the manual transfer of the rib tops to the stocking knitter, a number of the terminal loops of the rib knitting must be doubled, that is to say, both a cylinder and a dial loop must be placed upon a single needle of the stocking knitter, and as this operation is performed by hand, the loops being transferred one at a time, it is tedious and expensive. By my process however, this doubling of the loops is accomplished automatically upon the ribber, at the point where the change from rib knitting to plain knitting occurs, so that the manual transfer operation consists of nothing more than the placing of a course of loops, one upon each of the needles of the stocking knitter, an operation which any skilled topper can perform with great rapidity. In my said ap-

plication however, I have described the manual transfer operation as taking place in one of the courses of plain knitting. I have now discovered that it is preferable to effect this manual transfer operation upon the last course of loops knit upon all of the needles of the ribber being the course in which the doubling or automatic transfer operation takes place, since in this way I secure the advantage of the automatic doubling of the loops without the necessity of employing any of the courses of plain knitting which have been knit upon the ribber, in the ultimate fabric of the stocking. I thus secure all the advantages described in my other application, and at the same time secure a neater union in the stocking.

In the accompanying drawings, Figure I, represents diagrammatically a section of string-work knit according to my invention. Fig. II, exhibits on an enlarged scale the structure of that portion of Fig. I, which is indicated by dotted lines.

In practicing my process, I knit upon the ribber the requisite length of tubular ribbed fabric 1, for either half hose or long hose as may be required. When the proper number of courses of ribbed knitting have been thus produced, I knit a single similar course 2, in which by alteration of the tension, longer loops are produced, thus forming what is usually known as a "loose course". I then effect the transfer upon the ribber of the loops of this loose course which are held upon the dial needles, to the corresponding cylinder needles, thus effecting a doubling of the loops at this point. This automatic transfer may be accomplished by various mechanisms known in the art.

In Fig. II, there is exhibited at 2, the structure on an enlarged scale of this loose course of ribbed knitting after the loops 3, 3, have been doubled as described. I then operate the ribber for a few courses (three or four will usually suffice), for the production of plain tubular knitting 4, upon the cylinder needles, such plain knitting having one-half as many wales as the preceding rib knitting by reason of the doubling of the loops. Thereupon, the dial needles are again thrown into operation, and the knitting of ribbed fabric repeated, thus producing an indeterminate string-work consisting of a succession of ribbed tops separated from each other by a few courses of

plain knitting. The fabric thus produced is severed along one of the courses of plain knitting 4, and each rib top is then by hand transferred to a stocking knitter by stabbing the needles of the stocking knitter through the doubled loops of the last course 2, of ribbed knitting, which having been knit as a loose course facilitates this operation. Thus two loops are placed upon each needle of the stocking knitter at a single operation, and just as rapidly as though this operation were performed upon a loose course knit in the section of plain knitting. The attached courses of plain knitting are then raveled out, and the stocking completely knit on the stocking knitter in continuity with the doubled and transferred loops. In this way I secure a very neat union at the point of transfer, and also a doubling of the loops without the necessity of the operator having to place by hand the extra loops over the needles of the stocking knitter one by one as has hitherto been the practice.

Having thus described my invention, I claim:—

1. Knit tubular string-work for topped hose consisting of tubular sections of ribbed knitting of suitable length for the top of the stocking, alternating in succession with short sections of plain tubular knitting, each

wale of which corresponds to a cylinder wale and a dial wale of the rib knitting, the last course of the section of ribbed knitting being formed of longer loops, doubled to correspond to the wales of the plain knitting.

2. The process of knitting a stocking which consists in knitting upon a ribber a tubular web of ribbed knitting; transferring the loops of the last course of this tubular web which are on the dial needles of the ribber to its cylinder needles; knitting on the cylinder needles of the ribber a short tubular section of plain knitting; manually transferring the tubular work thus produced to a stocking knitter by placing upon each of its needles two doubled loops of the last course of ribbed knitting; removing the succeeding courses of plain knitting; and then knitting the remainder of the stocking on the stocking knitter.

In testimony whereof, I have hereunto signed my name, at Philadelphia, Pennsylvania, this twenty-second day of October 1908.

JOSIAH BLACK.

Witnesses:

JAMES H. BELL,
E. L. FULLERTON.