

W. Goddard.
Knit Fabric.

N^o 15,607.

Patented Aug. 26, 1856.

Fig. 2.

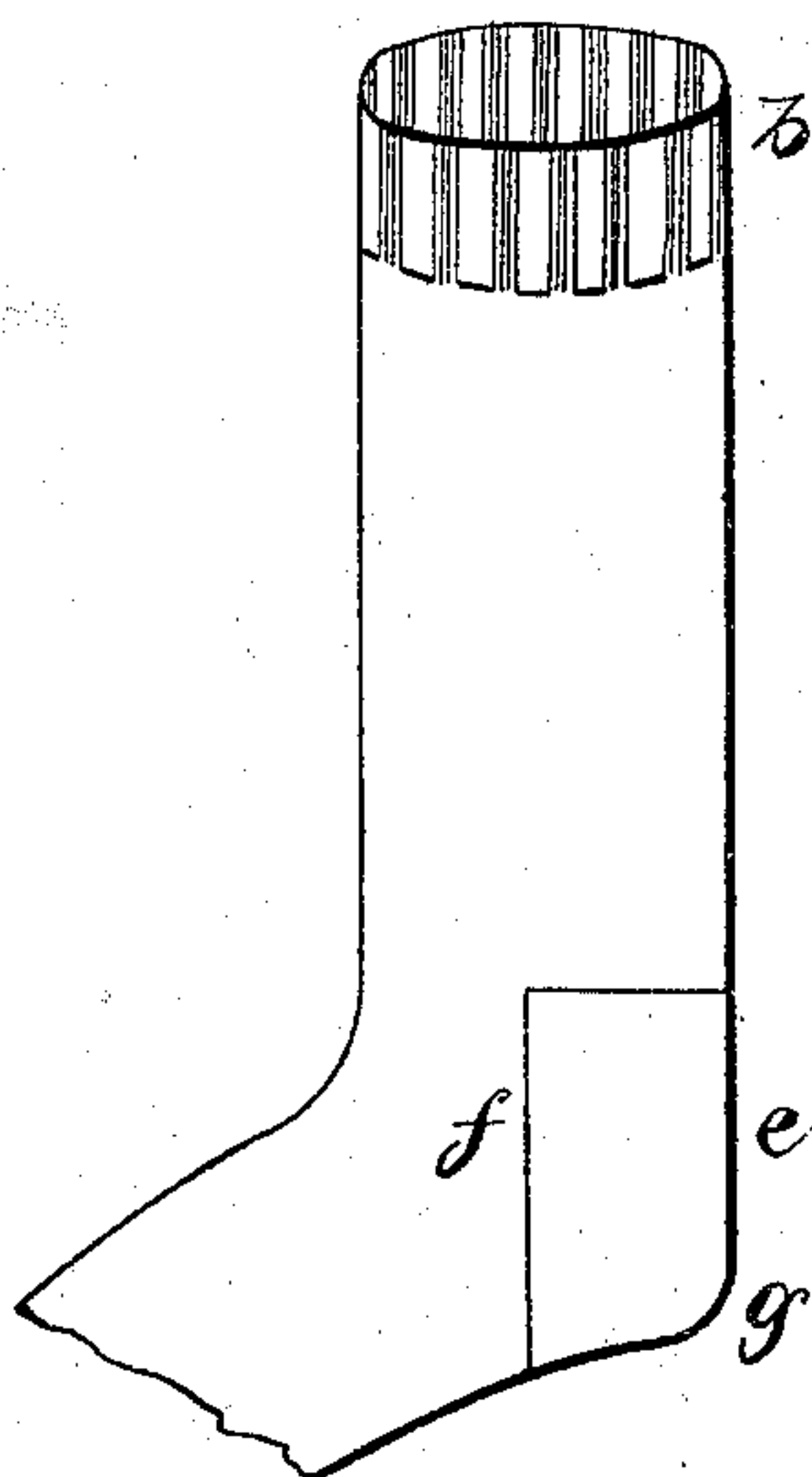


Fig. 1.

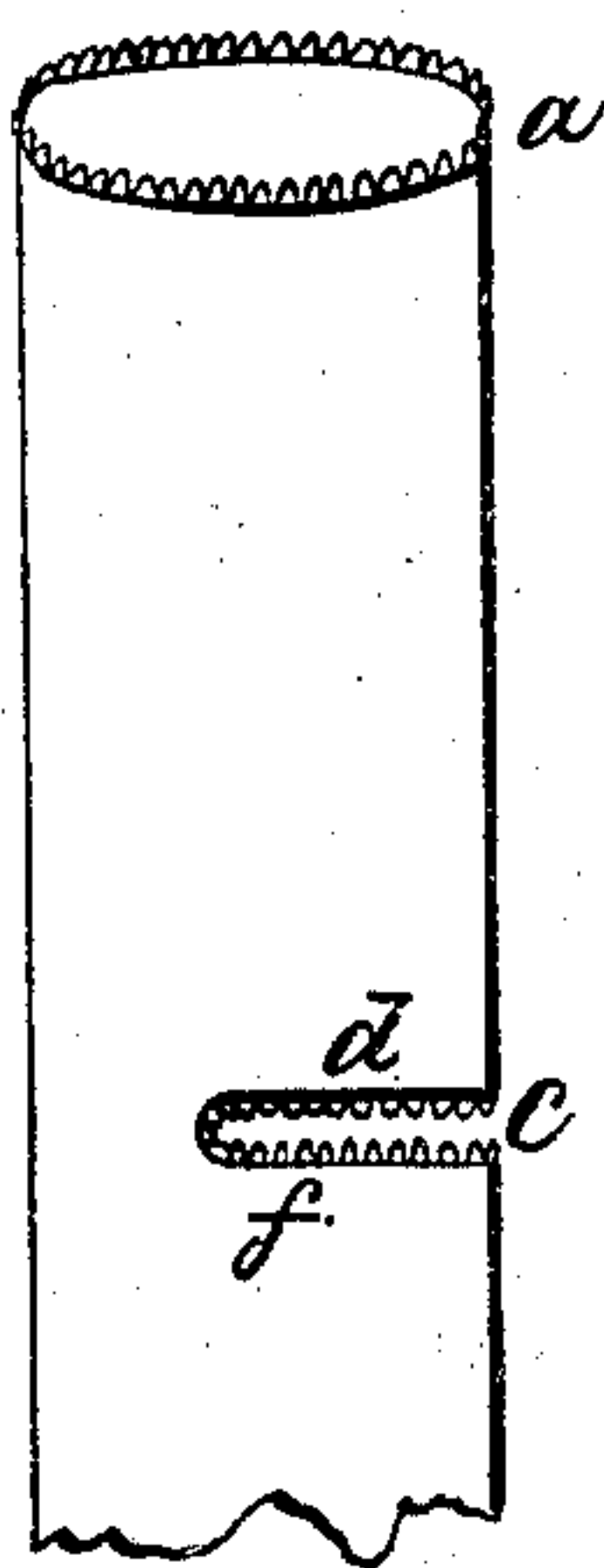
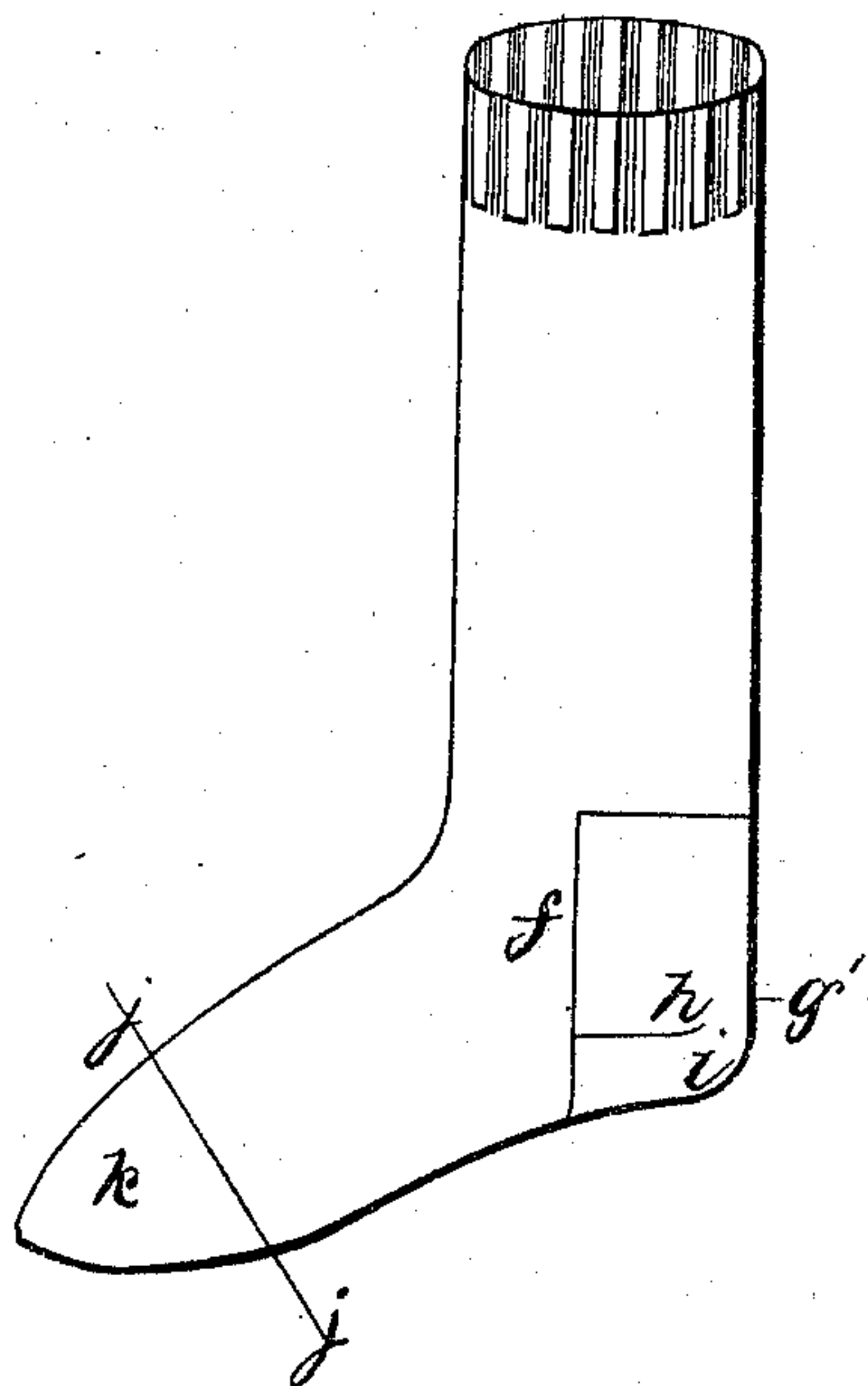


Fig. 3.



Witnesses:
Wm H Brown
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Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM GODDARD, OF NEW YORK, N. Y.

MANUFACTURING SEAMLESS HOSIERY.

Specification of Letters Patent No. 15,607, dated August 26, 1856.

To all whom it may concern:

Be it known that I, WILLIAM GODDARD, of the city, county, and State of New York, have invented a new and useful Improved Manufacture of Seamless Hosiery, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a process or mode of procedure by which I am enabled to make seamless hosiery from machine knitted work and my said invention consists in taking seamless tubular or circular knitted fabrics such as are produced by machinery, and of any desired length, and giving to such seamless tubular knitted fabric the required shape at the toe and heel without seam, and adding a ribbed top thereto also without seam, by cutting such seamless tubular fabric at certain places and after obtaining complete ranges of loops mounting the same and making the required additions by knitting or any equivalent means.

The mode in which I have practiced my invention with success is as follows viz: I take a knitted tube Figure 1, such as is knitted on any of the machines known or may be known for the production of that kind of work and I ravel out one end *a* until a complete set of loops are presented all around, and this I mount by hand on knitting needles and knit thereon a ribbed top *b* Fig. 2 without seam and thereby obtain all the advantages of an elastic ribbed top to a plain stocking as if the entire leg had been knitted by hand. Or instead of knitting the ribbed top on the plain cylindrical or tubular legs the loops may be mounted on some suitable machinery adapted to knitting seamless ribbed work. Or instead of cutting the end of the tubular knitted fabric and raveling out the cut end to obtain a complete series of loops, the end intended to receive the ribbed top may be delivered from the machine with the range of loops required. I then cut the said knitted tube Fig. 1 at *c* straight across to the extent required for the width of the heel, and ravel the cut edges until they each present a complete set of loops. Having done this I mount the loops on the edge *d* that is the edge nearest the top, on a knitting needle or needles, and in the usual mode of hand knitting work the entire length of the heel *e*, Fig. 2, and in doing this, at the end of

each range I take up and unite one of the loops along the other cut edge *f*, and when the length of heel is completed and all the loops along the edge *f* have been taken up I finish and cast off the work in the usual way of hand knitting. If desired the required rounding of the heel can be given as at *g* Fig. 2 by the usual mode of diminishing well known to hand knitters. In this way I am enabled to produce a completely shaped and finished seamless heel on a machine knitted seamless tubular fabric. Or instead of this I produce the heel as represented in Fig. 3 by cutting and mounting on needles as in the preceding example, and knit in the same manner up to the line *g'* taking up at each range one loop from the edge *f*. And then I retain on separate needles the loops on each side from the edge *f* to about the end of the line *h* and the part *i* or back of the heel on a separate needle or needles. I then continue to knit the part *i* along the length of the line *g'* taking up at each range one loop from the edge along the line *h*, and when I reach the edge *f* I take up all the remaining loops on that edge and knit them in and then cast off in the usual way of casting off finished knitted work. I am thus enabled to produce a fabric consisting of machine made tubular knitted work with what is known as a seamless German flat heel. I then cut off the tubular fabric at the required distance from the heel, or form it originally of the required length, say at the line *j* to give the required length of foot except the shaped toe part; and after raveling the cut edge until it presents a complete set of loops, I then mount the loops on needles and knit on the toe *k* of the required form and in the usual manner of doing such work by hand knitting.

By this mode of procedure it will be seen that I am enabled to produce seamless hosiery in all the shapes which can be produced in hand knitting, and at a cost but slightly exceeding the cost of what is known as cut hosiery, for the main part can be knitted on any of the machines suited to the production of tubular seamless knitted fabrics.

It will be obvious from the foregoing that instead of knitting on the additional parts and forming the union by taking up in succession the loops along the edge or edges to be united by hand knitting, that the same

thing can be effected on seamless knitting machines.

What I claim as my invention and desire to secure by Letters Patent is—

5 The process or method of manufacturing seamless hosiery of the form required from what is known as seamless tubular knitted fabrics such as are knitted on machines that knit tubes of a uniform diameter and

adding thereto the ribbed top, the heel, and 10 the toe, by hand knitting or any equivalent therefor, substantially in the manner described.

WILL GODDARD.

Witnesses:

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CHAS. A. WILSON.