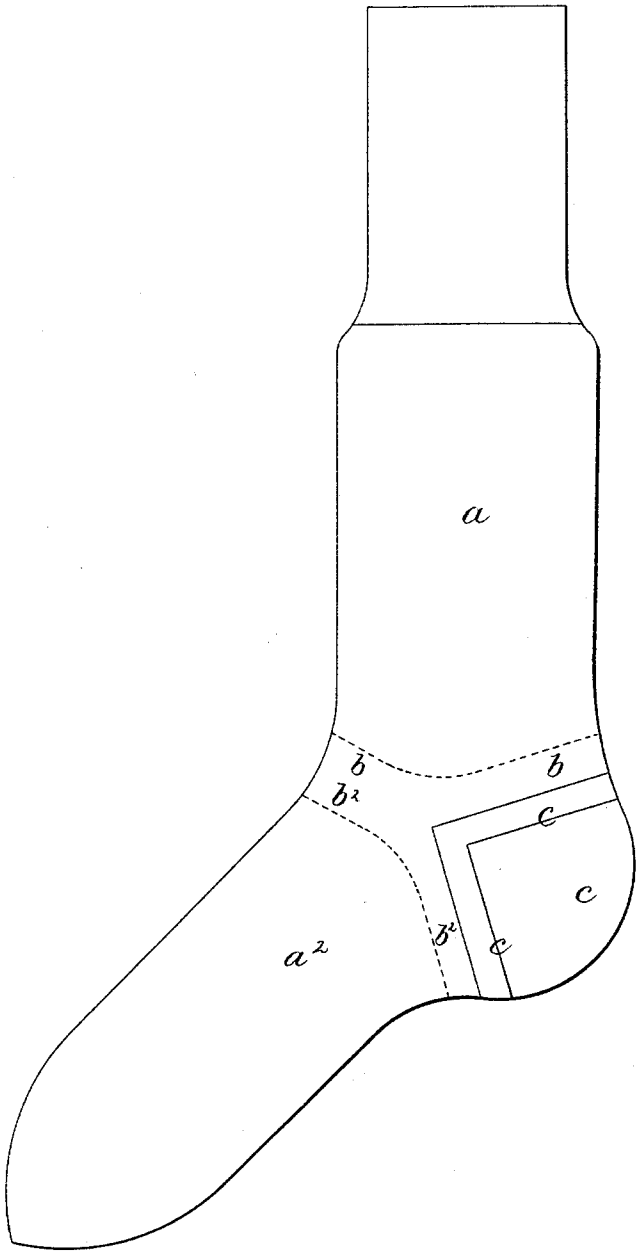
(No Model.)

B. F. SHAW.

STOCKING.

No. 453,512. Patented June 2, 1891.



Witnesses
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN SHAW, OF LOWELL, MASSACHUSETTS.

STOCKING.

SPECIFICATION forming part of Letters Patent No. 453,512, dated June 2, 1891.

Application filed May 26, 1890. Serial No. 353,153. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN SHAW, of Lowell, county of Middlesex, State of Massachusetts, have invented an Improvement in Stockings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to stockings made of knit tubular webbing, fashioned at the heel by narrowing and widening, so as to produce more fabric at the heel than at the instep side of the tube, thereby giving the stocking the desired shape.

The method of making stockings of this general character is shown and described in Letters Patent No. 64,154, dated April 23, 1867; and the object of the present invention is to produce a stronger and more durable stocking than one produced by the method shown and described in said patent.

Heretofore in making stockings of this kind by narrowing and then widening the knitting to form the heel additional yarn is introduced while the additional fabric is being produced in the widening and narrowing process, thus re-enforcing the heel portion of the stocking. In other words, the round and round knitting is composed of yarn having a certain weight or a certain number of strands, and when the round and round knitting has been completed to the point where the heel is to be begun the partial courses to form the additional fabric for the heel are knit with yarn of additional weight or having one or more additional strands introduced, such additional strand being hereinafter referred to as the "splicing-thread." Sometimes in making stockings of this kind, after the narrowing courses have been knit and before the widening is begun a small number (two or three) of courses are knit entirely around the tube. When such courses are knit with the same yarn that is used in making the additional fabric at the heel, they produce a band around the stocking, passing diagonally over the heel and instep, which, owing to the introduction of the splicing-thread, is heavier and firmer than the plain tubular part of the stocking, producing a cord-like band over the instep, which is objectionable, as it tends to cause the thinner fabric at either side of it to roll over, making a lump or wrinkle which bears against the foot of the wearer at this point. If a considerable number of round and round courses should be knit between the parts formed by narrowing and widening, respectively, so as to avoid such tendency to roll, it would spoil the shape of the heel, and it is impracticable to knit more than two or three, or at any rate a very small number, of such courses. In stockings knit without such intervening complete courses between the narrowed and widened portion there is a weak point at the corner where the additional fabric and the plain tubing above and below it come together.

The main object of the present invention is to strengthen the fabric at this point without producing any objectionable rolling or bunching of the fabric. This result is accomplished in accordance with the present invention by introducing the splicing-thread or additional strand of yarn before the narrowing operation is begun, or while the circular knitting is going on, and knitting several courses round and round with the heavier yarn. Then the round and round knitting is stopped and the reciprocating knitting is begun and properly narrowed and widened, as usual, thus lengthening and increasing the fabric on the heel side of the tube without any intervening round and round courses, and after the entire additional fabric on the heel side of the tube has been made a number of additional round and round courses are made with the heavier yarn or splicing-thread still introduced, after which the splicing-thread is stopped and the plain round and round knitting of the tube without additional yarn is continued in the usual manner. By this means a stocking is produced having a broad stripe or band of thicker material at the instep portion, said band being split or divided, as it were, toward the heel side, and having the additional heel fabric of the same weight of yarn inserted, so that the entire heel and a portion of the instep opposite the heel is re-enforced or made of heavier fabric than the remainder of the tube. The number of round and round courses knit with the splicing-thread above and below the additional heel-forming fabric may be varied, and the re-enforced band may be an inch or more

in width over the instep portion, in which case there is no tendency to fold or roll, and the re-enforced portion of the fabric is extended above and below the heel, which is a great advantage and increases the durability of the stocking to a very considerable extent. By preference the round and round re-enforcing courses are separated by the narrowed and widened heel part into two unequal parts, there being more courses above than below the additional fabric of the heel, as this part is subjected to abrasion by the counter of the shoe, so that its re-enforcement increases the durability of the stocking.

The additional fabric introduced to form the heel may be of any suitable or usual shape, the formation of the heel part proper being substantially the same as when begun without previous introduction of the splicing-thread in the round and round knitting.

It is immaterial, so far as the present invention is concerned, whether the leg or the foot portion of the stocking is formed first.

The drawing shows a stocking embodying this invention, in which a is the plain portion of the tube forming the leg of the stocking; b, a number of courses knit entirely round the tube, but of heavier material, owing to the introduction of the splicing-thread; c, the additional fabric knit into the heel side of the tube by a portion of the needles and shaped by narrowing and widening to give the desired shape to the heel portion of the stocking; b^2, a number of the courses knit wholly around the tube beyond the additional heel-forming fabric e, but with the splicing-thread still introduced, and a^2 the plain tube knit with the yarn of normal weight, or, in other words, without the additional splicing-thread. The entire heel and instep portion $b\ c\ b^2$ is thus of heavier material than the remainder of the stocking.

The toe portion may be made in any usual manner, as this forms no part of the present invention.

I claim—

A stocking having a leg portion composed of tubular fabric and several courses around the tube of heavier or re-enforced fabric produced by the introduction of a splicing-thread above and adjacent to the heel, additional fabric on the heel side only of the tube, also re-enforced by the additional splicing-thread, additional courses wholly around the tube below the heel portion, also re-enforced by the splicing-thread, and a tubular unre-enforced foot portion of the fabric adjoining the said re-enforced portion, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN FRANKLIN SHAW.

Witnesses:

WILL H. HOWE,

ANNIE E. CANARAN.