H. BROWN.

KNITTING SEAMLESS STOCKINGS WITH LACEWORK EFFECT BY MACHINERY.

(Application filed Aug. 28, 1900.)

(No Model.)

No. 668,674. Patented Feb. 26, 1901.

Witnesses:
Wilhelm Hirsch
Thomas W. Smith

Inventor:
Henry Brown

THE NORTON PETERS CO., PHOTO-LITHO, WASHINGTON, D.C.
HENRY BROWN, OF PHILADELPHIA, PENNSYLVANIA.

KNITTING SEAMLESS STOCKINGS WITH LACEWORK EFFECT BY MACHINERY.

SPECIFICATION forming part of Letters Patent No. 689,674, dated February 26, 1901.
Application filed August 28, 1900. Serial No. 29,330. (No specimen.)

To all whom it may concern:

Be it known that I, HENRY BROWN, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in the Art of Knitting Seamless Stockings with Lacework Effect by Machinery, of which the following is a specification.

My invention has relation to an improvement in machine-knitting of seamless stockings by means of which the stocking is knit by one continuous operation, with the leg, heel, foot, and toe portions all formed from a single thread, the stocking having on its front a section or series of sections of open or lace work which is or are continuous from the leg to the foot portion over the instep of the stocking.

Hitherto in the automatic knitting of stockings the stocking, if formed on a dial-needle or ribbing machine, has had only the leg portion knit and ornamented with lace or open work on that machine. The leg has then been transferred to another machine, which knits the plain foot portion without lace effect. Again, if the stocking is formed upon a straight-knitting machine the blank has been knit with lace or open work effect flat, somewhat in the manner in which fabrics are woven in a loom, and the flat blank has been thereafter suitably sewed into a stocking which has a seam at its back.

By my present improvement a seamless stocking formed of a single thread and having the toe, foot, heel, and leg portions knit continuously at one operation is ornamented with a section or sections of open or lace work extending continuously along the front of the leg and over the instep of the stocking.

Before describing the stocking with reference to the arrangement of the loops or wales it should be stated that circular-knitting machines of various types may be altered to readily produce the stocking and that the circular-knitting machine described and claimed in the Letters Patent No. 642,579, granted to me under date of February 6, 1900, in particular will be found well adapted for producing a stocking embodying the features of my present improvements or invention.

The nature and scope of my said invention will be more fully understood from the following description, taken in connection with the accompanying drawing, forming part hereof, illustrating, partly in perspective and partly in side elevation, a stocking embodying main features of my said invention.

Referring to the drawing, a represents the leg, b the heel, c the foot, and d the toe portion, of the stocking, all of which are automatically knit by a single thread e continuously and in one operation. The rear or back portion a' of the leg a, the entire heel portion b, the back or sole portion c' of the foot c, and the entire toe portion d of the stocking are all formed of a plain regularly-knitted fabric f. The front portion of the stocking, however, extending along the leg and instep, is formed of sections f' of regularly-knitted fabric united by a section or sections g of open or lace work fabric. The precise arrangement of the courses forming the sections f' and g is as follows: Beginning at the top of the stocking, the thread e is first knit or formed into a series of regular loops f'. The thread then crosses in a crossing thread or loop g' a space of from three to five loops, when it is again formed into a series of regular loops f', and again into a crossing thread or loop g', and continues until the courses of regular and crossing threads or loops are completed. For the next course the regular loops are knit; but instead of crossing threads a series of long loose loops g are formed, above which the crossing loops or threads g' are held. The open-work stitch therefore comprises a crossing thread or loop g', locked to an elongated loose loop g', and is of a depth corresponding to a double course of loops. The entire stocking is thus formed of a plain seamless knitted tubular fabric in which the leg and foot portions are formed of alternate sections of open or lace work united to sections of ordinary loops, the rows of ordinary loops in one section being joined to the rows of ordinary loops in the adjoining section by alternate crossing threads and elongated loops, forming an open or lace work stitch or sections. The regular or ordinary loops are also arranged continuously along the rear of the leg, the entire heel and toe, and along the sole portion of the stocking, while the alternate sections of regular and open-work meshes are arranged continuously along
two threads, the front of the leg and the instep portion of
the stocking.

By a thread is meant either a single strand or a series of strands, which, however, are
manipulated to form a single loop and are all fed from a single-yarn feed, it being under-
stood that when more than one strand is used the additional strands are only fed for the
purpose of thickening the fabric or increasing its weight.

Having thus described the nature and object of my invention, what I claim as new, and
desire to secure by Letters Patent, is—

1. A machine-knit stocking having a toe, foot, heel and leg portion, knit continuously
from a single thread at one operation, the rear portion of the leg and foot and the en-
tire heel and toe portions of the stocking being formed of plain knitted meshes and the
front of the leg and the instep portion of the foot of the stocking being formed of alternate
sections of regular and open or lace work meshes, substantially as and for the purposes
described.

2. A machine-knit stocking formed of a single thread at one continuous operation, said
stocking having along the front of the leg and over the instep of the foot portion of the stock-
ing, alternate sections of regularly-knit and open or lace work stitches, said open or lace
work stitches consisting of alternate rows of crossing threads and long loose loops locked
together, and the remainder of the stocking being formed of regularly-knit stitches, sub-
stantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subcribing
witnesses.

HENRY BROWN.

Witnesses:

J. WALTER DOUGLASS,

THOMAS M. SMITH.