

K. NEBEL.

ART OF KNITTING A FULL FASHIONED BLANK FOR A STOCKING.

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1,048,572.

Patented Dec. 31, 1912.

FIG. 1.

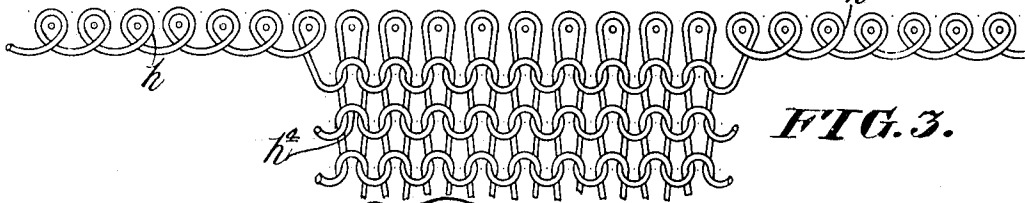
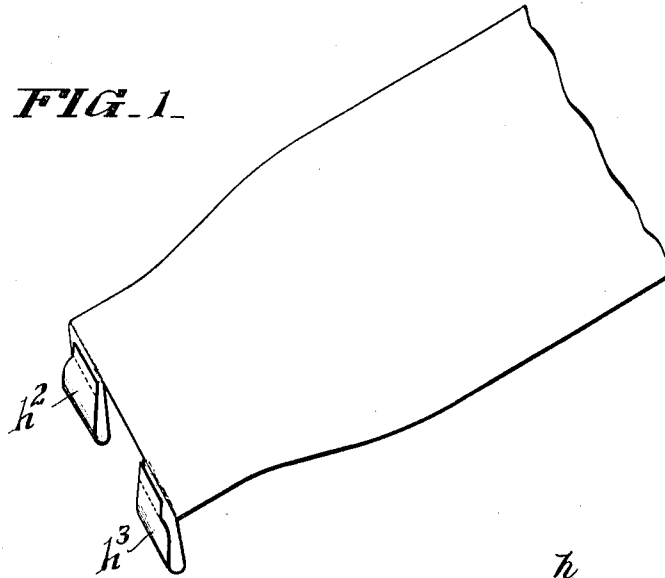
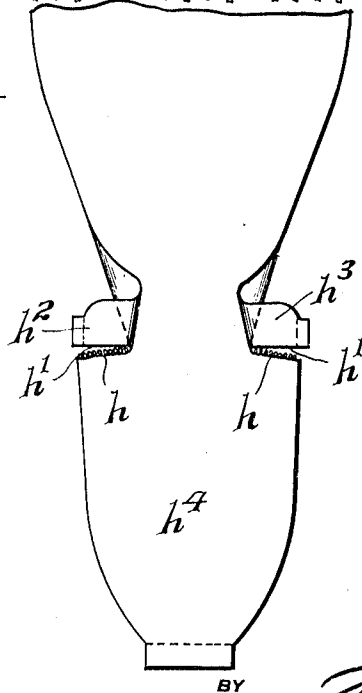


FIG. 3.

FIG. 2.



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ART OF KNITTING A FULL-FASHIONED BLANK FOR A STOCKING.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, KARL NEBEL, a subject of the King of Saxony, but now residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in the Art of Knitting a Full-Fashioned Blank for a Stocking, of which the following is a specification.

My invention relates to the art of making complete a full fashioned stocking blank, comprising leg, foot and heel-flaps, on a flat or straight knitting machine, without transfer, and ready for uniting or looping together the ends of the blank to constitute the full fashioned stocking.

Hitherto the generally practised mode of making a full fashioned stocking on a flat or straight knitting machine, has been accomplished by, after finishing the leg and heel-flaps throwing off the loops at the middle of the blank fabricated; and continuing knitting the two sides of the blank to constitute the heel-flaps and then removing from the machine and looping the ends of the leg together on a transfer bar the loops of the middle portion of the leg being placed on the needles of the transfer bar and the heel-flaps taken up along the inner selvage on the transfer bar and then transferred to a footing machine to complete the stocking. By such required manipulations necessary at present in the making of a full fashioned stocking, the following disadvantages have been presented, first transfer of the blank formed leg to a transfer bar; second, requirement of providing additional courses of loops at the middle portion of the leg which have to be unraveled after one series of such loops have been placed on the transfer bar and this aside from unnecessary waste and irregular finishing of the heel as to corners of the same; third, difficulty in figuring accurately in the first instance whether in production the leg corresponds to that of the foot, as it very frequently happens that either one or the other machine has to be stopped to ascertain whether desired proportions have been had; fourth, difficulty in transferring of materials from one machine to another in order to match up parts to be united or looped together uniformly; and fifth, time consumed in transferring and the labor absolutely necessary to finish the leg and begin the foot has occasioned unwarranted expense in fabri-

cating stockings on flat or straight knitting machines.

According to my invention, after finishing the stocking blank up to the portion where the heel-flaps begin, by means of an auxiliary presser-bar placed in action the needles on the sides of the leg in which the loops for the heel-flaps are to be provided are pressed off while the middle portion remains upon the needles during formation of the heel-flaps. To secure the desired action of the said bar, a double movement is permitted by a special cam connected with said bar through an arm and the altering of the movement of the needle-bar so that the needles do not touch the regular presser-bar, which is effected by changing the form of the cam controlling movement of said bar. After the heel-flaps are finished their loops are thrown off and only the loops of the middle portion of the stocking blank remain on the needles. Then the full width of the foot is taken up but instead of forming only sinker loops on the needles brought into action again, which loops had previously been thrown off, a special constructive arrangement of mechanism is provided and arranged to be brought into action to pass the thread or yarn completely around each individual needle to enable strong or secure loops to be provided for uniting with the inside selvage of the thrown off loops of the heel-flaps and which action takes place after the entire stocking blank has been completed. It will be noticed that loops formed in this manner by wrapping about a needle or needles are closed, having crossed legs or shanks. After having formed one row of such loops the said auxiliary presser-bar is thrown out of action and fabrication of the foot is continued in the regular way until finished; whereby is effected, first a considerable saving of time and labor in the making of the complete fashioned blank; second, the avoidance of unequal proportions in production of knitted fabric of the different parts of the blank; third, avoidance of transfer of the knitted fabric onto other machines to finish or the thread or yarn onto spools for subsequent use in the knitting operations; and fourth, appreciable saving in waste as well as assuring far more uniform knitting of leg, foot and heel in the production of a full fashioned stocking blank.

The nature and scope of my present in-

vention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, in which—

5 Figure 1, is a perspective view of a portion of a stocking blank, showing the leg and heel-flaps produced according to the method of my said invention. Fig. 2, is a plan view of a portion of a completed stocking blank, showing leg, foot and heel-flaps ready to be united or looped together; and Fig. 3, is a detailed view, enlarged, of the setting up course at the beginning of the heel-flaps of the stocking blank.

15 According to the method of my said invention, in the practising of the same for producing a full fashioned stocking blank, complete, without transfer, a flat or straight knitting machine is employed of preferably the type forming the subject-matter of United States Letters Patent, No. 1,033,723, dated July 23d, 1912, and which has been found practically efficient for such defined purpose. By the said method, the blank is

25 knit with a narrowed selvage so as to provide a fashioned leg and ankle. Knitting is then suspended as to the central wales corresponding to the top of the instep of the stocking, then the knitting proceeds with separate selvage flaps at the extremities of the blank for the sides of the heel of the stocking. Then are cast off the heel-flaps

30 and then is knit a course having such a number of wales as will form fabric for the beginning of the entire width of the blank corresponding to the top of the instep and length of the internal selvages of the heel-flaps, with the beginning course including a series of setting up or beginning loops at its extremities corresponding to the wales in excess of those for the instep, when the foot blank is knit to complete the same. A second feature of the said method in practice, is to knit a narrowed selvaged blank to provide

45 a fashioned leg and ankle. Then knitting is suspended of the central wales corresponding to the top of the instep. Then knitting of the separated selvaged flaps at the extremities of the blank for the sides of the heel of the stocking is proceeded with. Then casting off the heel-flaps and knitting of a course having such a number of wales as will form fabric for the beginning of the entire width of the blank corresponding to the top of the instep and length of the internal selvages of the heel-flaps, the beginning courses of which including a series of setting up or beginning loops at its extremities for the beginning of the sole corresponding to the wales in excess of those for the instep, and then are united the internal selvages of the heel-flaps and the setting up courses at the beginning of the sole and finally the uniting of the selvages of the

50 remainder of the blank to the usual back seam. A third feature of the said method, is to knit a narrowed selvaged blank having a fashioned leg and ankle, then to suspend the knitting of the central wales corresponding to the top of the instep, then to knit the separate selvaged flaps at the extremities of the blank for the sides of the heel of the stocking and then to cast off the heel-flaps and to knit a course having such a number of wales as will form fabric for the beginning of the entire width of the blanks to correspond to the top of the instep and length of the internal selvages of the heel-flaps, the beginning courses including a series of setting up or beginning loops having crossed shanks formed by wrapping the yarn about a needle or needles at its extremities, for the beginning of the sole corresponding to the wales in excess of those for the instep and before completing the knitting of the foot blank of the stocking.

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With reference to Figs. 1 and 2, of the drawings, the needles used for the fabricating of the heel-flaps with certain additional needles on both sides to complete the width of the foot portion of the blank, are brought into action to provide the strengthening loops h , for the selvage portion of the foot to be united with the loops h^1 , of the heel-flaps h^2 and h^3 , of the blank, when thereafter ordinary knitting of the foot h^4 , is continued until completed.

From the foregoing it must be understood that during knitting of the fashioned leg blank, ordinary knitting is continued until the heel-flaps are to be formed, when instead of casting off loops between the heel-flaps as heretofore was the practice by the known methods employed, and when fabricated on a flat or straight knitting machine, in this instance, the loops are retained on the needles in action during the period of formation of the heel-flaps and when completed, the last loops formed of the heel-flaps h^2 and h^3 , are cast off and the middle section loops still remaining on the needles brought into such action as to continue uninterruptedly the formation of the stocking blank until completed. Then the selvage edges of the foot and heel-flaps on both sides are united as well as the toe-flap loops, when by ordinary stitching or seaming the foot and leg are completed to constitute the resultant product, a full fashioned stocking, comprising leg, foot and heel. Moreover, this product is obtained by but three continuing operations, as compared with five or more operations by old practised methods of making a full fashioned stocking.

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

1. The art of knitting a full fashioned blank for a stocking, which consists in knit-

ting a narrowed selvaged blank having a fashioned leg and ankle; in then suspending the knitting of the central wales thereof corresponding to the top of the instep; in 5 then knitting separated selvaged flaps at the extremities of the blank for the sides of the heel of the stocking; in then casting off said heel flaps; in then knitting a course having such a number of wales as will form fabric for the beginning of the entire width 10 of the blank corresponding to the top of the instep and the length of the internal selvages of the heel flaps, said beginning course including a series of setting up or beginning loops at its extremities correspond- 15 ing to the wales in excess of those for the instep and then completing the foot blank.

2. The art of knitting a stocking, which consists in knitting a narrowed selvaged blank having a fashioned leg and ankle; in 20 then suspending the knitting of the central wales thereof corresponding to the top of the instep; in then knitting separated selvaged flaps at the extremities of the blank for the sides of the heel of the stocking; in then casting off said heel flaps; in then 25 knitting a course having such a number of wales as will form fabric for the beginning of the entire width of the blank corresponding to the top of the instep and the length of the internal selvages of the heel flaps, said beginning course including a series of set- 30 ting up or beginning loops at its extremities for the beginning of the sole corresponding to the wales in excess of those for the in-

step; and in then uniting the internal selvages of the heel flaps and the setting up courses at the beginning of the sole, and uniting the selvages of the remainder of the blank in the usual back seam. 40

3. The art of knitting a fashioned blank for a stocking, which consists in knitting a narrowed selvaged blank having a fashioned leg and ankle; in then suspending the knitting of the central wales thereof corre- 45 sponding to the top of the instep; in then knitting separated selvaged flaps at the extremities of the blank for the sides of the heel of the stocking; in then casting off said heel flaps; in then knitting a course having 50 such a number of wales as will form fabric for the beginning of the entire width of the blank corresponding to the top of the instep and the length of the internal selvages of the heel flaps, said beginning course including 55 a series of setting up or beginning loops having crossed shanks formed by wrapping the yarn about a needle or needles at its extremities for the beginning of the sole corresponding to the wales in excess of 60 those for the instep, and then completing the foot-blank.

In witness whereof, I have hereunto set my signature in the presence of the two subscribing witnesses hereto.

KARL NEBEL.

Witnesses:

THOMAS M. SMITH,
ELISABETH A. SHELDRAKE.