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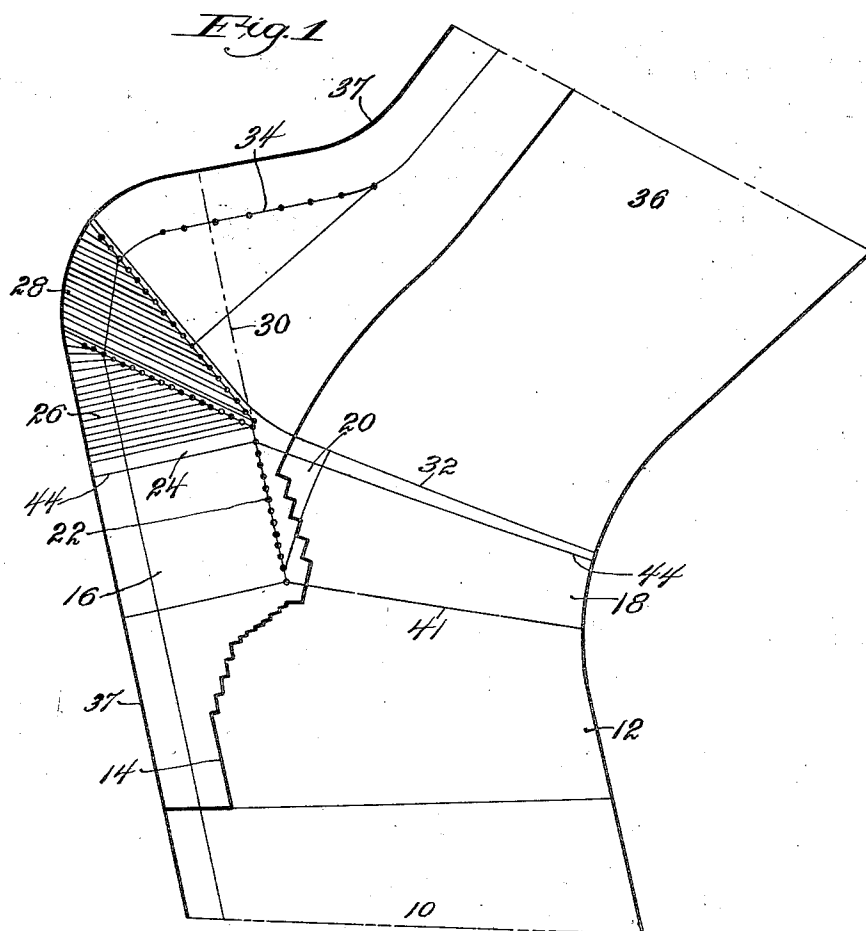
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2,582,756

STOCKING BLANK AND METHOD OF KNITTING

Filed Dec. 6, 1946

2 SHEETS—SHEET 1



INVENTOR.
Max Miller
by his Attorney
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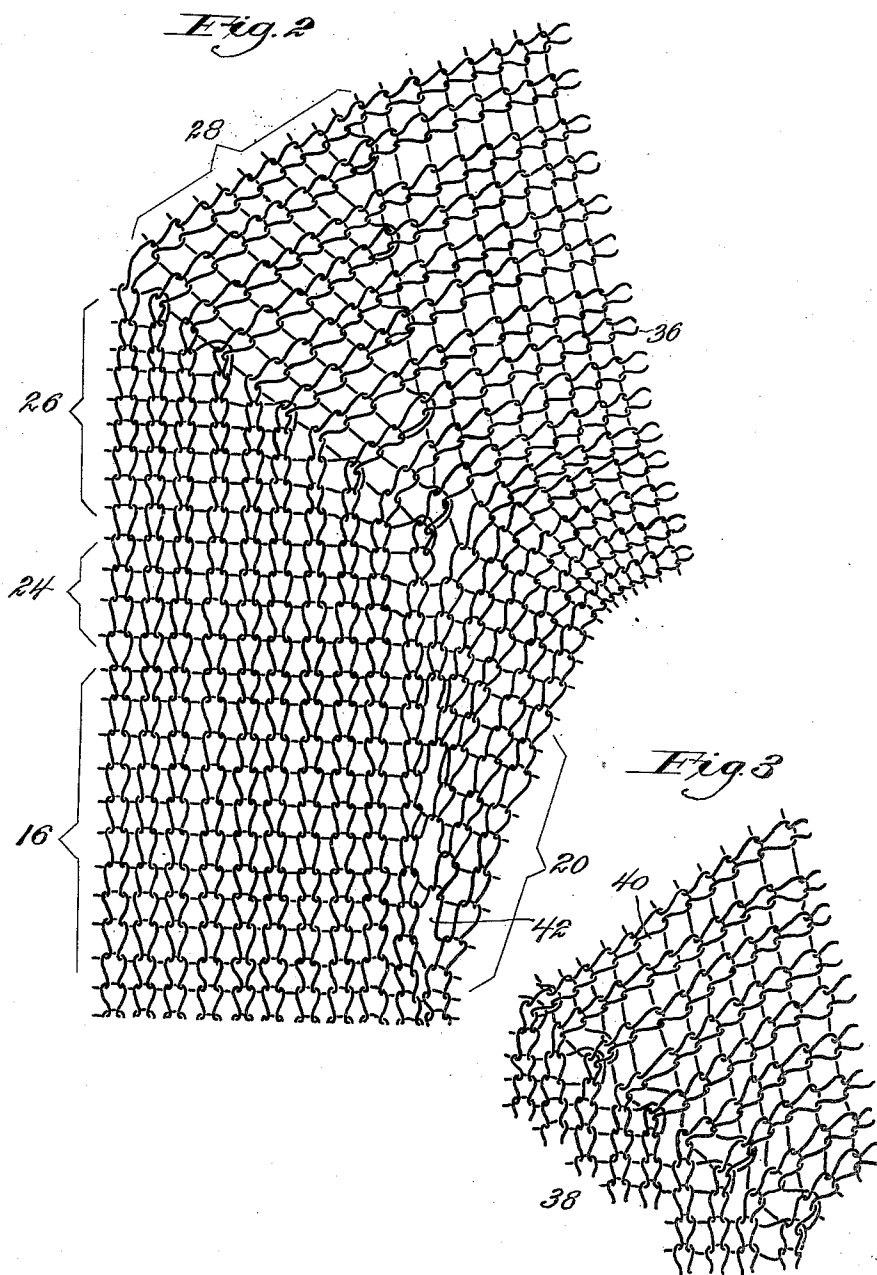
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2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE

2,582,756

STOCKING BLANK AND METHOD OF
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21 Claims. (Cl. 66—187)

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The present invention relates to an improved hosiery heel and to a method of knitting the same.

The heel structure and method herein disclosed as embodying in a preferred form the several features of the invention, are particularly, although by no means exclusively adapted for use in the manufacture of women's hosiery of the general type produced on flat full-fashioned hosiery machines.

One of the most difficult problems encountered in the manufacture of full-fashioned or shaped women's hosiery, is in the construction of a heel which will be properly fitted to the foot, is of good appearance, and which is at the same time capable of being manufactured in an efficient and economical manner on present available commercial full-fashioned hosiery machines. Full-fashioned hosiery is normally constructed with a so-called English or full-fashioned heel, of which the chief characteristic is the provision of two rectangular heel tabs which form the heel knitted as continuations of the leg fabric, but without knitting on the instep, and which are later joined along their inner edges and across the instep with a first course of foot fabric. In a heel of this character, the wales of the heel tabs are arranged at right angles to the first course of knitting of the foot, which necessitates the use of a separate manually performed looping operation in order to connect this first course of foot knitting with the heel tabs. Heels of this type are produced for the most part by a two-machine system which includes the legger on which the leg and heel tab portions of the blank are knitted, and the footer to which the blank is transferred for the knitting of the foot. The cost of producing a stocking of this type and in the manner described, is relatively high, and has led to various efforts to simplify and improve the manufacturing process as, for example, by the knitting of the entire blank including leg, heel areas and foot on a single machine, leaving only a looping operation to be performed by manual labor.

Efforts have been made also to produce a shaped hosiery blank in a continuous knitting operation, which will include heel areas or tabs which are of a substantially conventional shape, but so constructed and arranged as to present the terminal wale loops thereof along the inner edges of the tabs thus produced, so that the first course of foot fabric may be knitted thereto without the necessity for the usual manual transfer or looping operation. It has been found, however, that intricate mechanisms and attach-

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ments and a substantial complication of the machine controls are required for the production of hosiery blanks of this description.

It is a principal object of the invention to provide a heel for a shaped hosiery blank which is of novel construction having a novel and improved arrangement of the cooperating fabric areas, which is shaped more accurately to the human foot, which is capable of being produced as part of an integral unit with the ankle and foot portions of the hosiery blank by continuous knitting and with an unbroken selvage wale extending from the ankle around the heel and along the foot at each edge of the blank, which is of strong construction, and which is particularly adapted to present a pleasing and commercially acceptable pattern of the knitted loops and fabric areas formed thereby.

It is a further object of the invention to provide a novel and practicable method of knitting the shaped hosiery heel of the present invention, and of which the several steps are capable of being simply and efficiently carried out on existing full-fashioned legger type machines, and with relatively simple changes and additions to the machine.

In accordance with the invention, it is proposed to substantially change the relationship of the several cooperating ankle, instep, heel and foot portions of a shaped hosiery blank.

In accordance with a feature of the invention, the upper heel portion of the blank is formed with left and right upper heel areas and an instep area interposed therebetween, the upper heel areas and the instep area being shaped to produce a fabric blank of increasing width. In the preferred form of the invention, the upper heel portion consists of a series of knitted courses extending across the blank with heel groups of loops at each end thereof of substantially the same length in successive courses to provide left and right upper heel areas of even width, and with the intervening instep group of loops having loops added at each end thereof in selected courses to provide an interposed instep area of progressively greater width. In accordance with the illustration, the knitting of the upper heel and interposed instep areas is accomplished by the formation of eyelets forming lines of demarcation between the upper heel areas and interposed instep area which gives the appearance of the conventional heel tabs knitted with the ordinary English type heel.

It will be understood that the novel construction and arrangement of the upper heel areas with the interposed instep area widened toward

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its lower end, is not limited in its application to a heel having the lower left and right heel portions knitted in accordance with the method hereinafter more specifically set forth, but may be employed with equal advantage for the construction of other types of shaped heels including, for example, a modified form of the English heel, in order to improve the fit of the heel portion of the stocking, particularly across the upper heel and instep.

In accordance with a further feature of the invention, applicant provides a lower heel structure in the form of a series of short courses knitted as continuations of the wales forming the left and right upper heels, said short courses being shortened progressively at their inner ends to form inwardly tapered gores, and providing a continuous series of terminal wale loops into which the first course of the foot is knitted extending entirely across the fabric including the left and right lower heel and instep areas. An important characteristic of the heel constructed and arranged as above described, consists in the proportionately greater length as compared to width of the heel areas which compares favorably with the proportions found desirable in the conventional English or full-fashioned heel. The heel formed in this manner has the further advantage that the lower end of the heel is rounded to fit more accurately the human foot.

Another feature of applicant's heel consists in the arrangement of the gored lower heel areas which are knitted as continuations of the upper heel areas and are formed with the inner apexes thereof on the same or upon closely adjacent wales substantially in line of demarcation between the left and right upper heels and the interposed instep area. With the construction and arrangement of the heel above described, the advantages of improved fit are obtained without sacrifice of neatness in appearance, the vertically arranged dividing lines between the left and right upper heel areas and interposed instep portion together with the continuing suture lines of the left and right lower heel areas tending to mark off the fabric areas in which a manner as to obtain a close resemblance of the closed heel to the conventional and generally accepted English heel in full-fashioned hosiery.

A further feature of the invention consists in the arrangement of the upper and lower heel areas to provide a continuous and unbroken selvage wale at each edge of the fabric extending downwardly from the leg around the heel and along the length of the foot, thus insuring a tight selvage and a correspondingly neat appearance of the finished stocking.

The shaped heel above described, is knitted on a full-fashioned hosiery "legger" machine in accordance with the steps of a novel and improved method of knitted shaped hosiery blanks as follows: A series of courses is knitted entirely across the width of the blank to form upper left and right heel knitted areas at each side of the blank and an area of instep fabric therebetween. End groups of left and right heel wale loops of such size to produce heels of the desired width are transferred or moved outwardly of the needle series in selected courses, loops being added in said courses at each side of the instep area to form upper heel areas of even width and a progressively widened instep area interposed therebetween. A small number of strengthening courses without widening are preferably knitted entirely across the fabric. Thereafter series of short courses are knitted at each side of the fabric

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to form lower heel areas as continuations of said upper heel areas. In the preferred form of the invention illustrated, the knitting of the lower heel areas includes the steps of knitting series of lower heel short courses successively shortened at their inner end to form a plurality of inwardly tapered gores having their inner apexes substantially in line with the lines of demarcation between the upper heel areas and interposed instep fabric. The foot is then knitted across the entire width of the fabric including the terminal wale loops forming the last lower heel gores and upon the terminal wale loops of the interposed instep area referred to.

With the objects in view as above noted, the several features of the improved shaped heel fabric forming the subject-matter of the present invention, together with the steps of using applicant's improved method, will be readily understood by one skilled in the art from the following description taken in connection with the accompanying drawings, in which Fig. 1 is a diagrammatic view of the seamed stocking illustrating the heel and adjacent ankle and foot portions, and with structural features shown in diagrammatic form; Fig. 2 is an enlarged detail view showing the loop formation in and around the inner heel corner of the stocking illustrated in Fig. 1; and Fig. 3 illustrates on an enlarged scale an alternative form of loop structure provided by the knitting of successively shorter and thereafter of successively longer courses for the formation of adjacent lower heel gores.

Referring specifically to the drawing, Fig. 1 shows the lower end of the leg portion of the blank designated at 10, and an ankle portion 12 with a reinforced or spliced heel area outlined by the heavy line 14. While for convenience of illustration the illustrated stocking is shown in its seamed form, it will be understood that the blank when spread out prior to seaming, comprises the left side portion specifically illustrated in Fig. 1, and a symmetrically formed right side portion of opposite face. The heel is formed with a pair of left and right upper heel areas rectangular in shape, of which the left hand heel area is shown at 16. Each of these heel areas is composed of a series of parallel wales and with the same number of loops in successive courses. Interposed between the two heel areas is an area of instep fabric 18 which is formed by continued knitting entirely across the fabric during the formation of the upper heel areas. The instep area 18 is widened toward its lower end by the addition of loops along the outer edges of the instep area between the instep fabric and the upper heel areas. This widening is accomplished by stepping the loops of the courses forming the upper heel area 16 outwardly for the knitting of successive courses, thus forming an additional triangle 20 of instep fabric, and producing a series of eyelets which form a line of demarcation 22 between the upper heel area 16 and the interposed instep area 18.

Following the knitting of the upper heel areas, a number of full courses are knitted entirely across the fabric, producing an area 24 which is effective to strengthen the fabric along the line of demarcation between the heel and instep fabric areas. Thereafter, first left and right lower heel gores 26 are knitted. The gores 26 are formed by the knitting of heel fabric courses successively shortened at their inner ends, while knitting is suspended across the instep and on the successively idled needles employed in knitting the gore. Thereafter, left and right lower heel

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gores 28 are knitted, starting on each heel with a first long heel fabric course extending over all of the active and idled needles previously employed in knitting the lower heel gores 26. The gores 28 are formed by the knitting of series of courses successively shortened at their inner ends.

In the preferred form of the invention, the gores 26 and 28 are formed with the pointed inner ends terminating on the same or closely adjacent wales which are substantially in alignment with the line of demarcation separating the upper heel area 16 from the interposed instep area 18. In the embodiment shown, the first long course of each of the gores 26 and 28 is knitted into the terminal wale loops of all the wales forming the upper heel area 16. It will be understood that if so desired, a third and similar left and right lower heel gore may be added to the gores 28, so that the terminating line 30 of the last gore extends vertically downwardly, and forms a straight line continuation of the vertical line of demarcation 22 as indicated in dot-and-dash lines in Fig. 1.

Following the completion of the lower heel gores, the foot fabric is knitted. The first course of foot fabric indicated at 32 in Fig. 1 for a two gored heel, extends entirely across the fabric and is knitted into the terminal wale loops of all the heel and instep fabric wales. During the subsequent knitting of the foot 36 which may be of ordinary description, the fabric is narrowed at its outer edges in the usual manner, forming the narrowing marks 34 in accordance with the usual practice.

Valuable characteristics of the heel fabric construction above described, consist in the more accurate fit which is obtained as a result in part of the increased width of the total width of fabric through the upper heel and interposed instep portions; and the rounded heel portion which follows more closely than the English heel the shape of the human heel. A heel formed in this manner has the advantage from the point of view of style that it closely resembles the conventional full-fashioned heel in appearance. In this respect the heel formed with the third gore is even more advantageous than that formed with the two gores, in that the vertical heel line 22 is continued by the suture line 30 without any break and in the same direction to the bottom of the heel. The increased amount of fabric provided by the rounded portion of the heel combined with the correspondingly shortened foot fabric tends to eliminate any tendency which might otherwise exist for the fabric to climb around the heel or to form puckers in that portion of the stocking above the ball of the heel. A further advantage in the present construction consists in the fact that the same selvage wale indicated by the line 37 in Fig. 1 is continued from the leg and ankle portions of the blank indicated at 10 and 12 respectively, downwardly through the upper heel area 16 and around the gored heel areas 26 and 28 into the foot 36 without interruption, thus providing a firm and unbroken selvage edge along the full length of the fabric blank.

While the several features of the invention have been illustrated in a preferred form in the three figures of the drawings, it will be understood that substantial changes may be made in the proportions of the several knitted areas forming the heel, and further that these areas may be formed with other disposition of the knitted loops within the scope of the invention. It will be

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evident, for example, that other types and arrangements of gores may be employed in the knitting of the lower heels. Fig. 3, for example, illustrates an alternative type of gore formation in which the upper gored fabric indicated at 38 is formed with courses which are successively shortened at their inner ends, and a second gore 40 is then added thereto produced with an initial short course and following courses which are successively lengthened at their inner ends. A relatively pronounced eyelet formation is produced along the suture line between the two gores formed in this manner as indicated in Fig. 3.

In accordance with the invention, a novel method of knitting the shaped stocking blank embodying the improved heel structure above described is provided, which is well adapted to be carried out on standard commercial types of full-fashioned "legger" hosiery machines which may be either of the multiple section or single section type. For the knitting of the gored lower heels, while knitting is suspended on intervening instep needles and variable numbers of adjacent inactivated heel needles, it is preferred to employ a somewhat modified construction and arrangement of the cooperating instrumentalities and controls of the machine which is in accordance with the disclosure of applicant's copending application Serial No. 603,839½, filed July 9, 1945, and issued November 29, 1949, as Patent No. 2,489,658, for Manufacture of Knitted Hosiery. The mechanism provided, comprises left and right narrowing point units, each having a number of narrowing points equal to the number of parallel needle wales included in each of the left and right heels respectively. These narrowing point units are employed in the knitting of the upper heels to step or transfer the groups of needle wale loops progressively outwardly during the knitting of successive upper heel fabric courses, while corresponding numbers of loops are added to the intervening groups of instep loops by knitting upon the needles left empty by the successive transfer operations. During the knitting of the lower heels, the narrowing point units are operated as beard closing elements in cooperation with the active heel needles knitting the lower heel gores. During the knitting of the lower heel gores, the needle series is maintained in an abnormally advanced position out of engagement with the usual press edge in order to cause the intervening needles supporting the terminal wale instep and adjacent heel wale loops to hold their loops.

Farther in accordance with the disclosure of the copending application referred to, mechanism is provided for controlling the operation of inner and outer carrier stops and for shifting the narrowing point units inwardly and outwardly the desired number of needle indexes and in the desired relation to the knitting cycle of the machine for the performance of each of the loop transfer and knitting functions.

The steps of applicant's method of knitting the hosiery blank embodying the shaped heel above described, are as follows: It is assumed that the knitting of the lower leg proceeds in the usual manner with main and splicing carriers producing respectively the ankle portion 12 and reinforced portion 14 until the line 41 of Fig. 1 is reached. This line marks the end of the ankle and the beginning of the upper heel. The upper heel areas 16 may be formed with the same yarn carriers employed in the knitting of the preceding

spliced ankle portion 12, or if so desired, an additional splicing yarn may be employed to reinforce these parallel upper heel portions. During the knitting of the upper heel areas 16, yarn is being advanced to all of the needles across the instep of the fabric to form the interposed instep area 18. During the knitting of successive courses, all of the loops between the outer selvage edge of the fabric and the demarcation line 22 are transposed outwardly two indexes in a widening operation performed with conventional narrowing point fingers and associated narrowing machine devices, and this operation is repeated preferably at every second course to form the eyelets 42 of Fig. 2. The outward stepping of the loops forming the heel area has the effect of gradually widening the interposed instep area 18 to the terminating point provided by line 44—44.

After the course 44—44 has been knitted, in the preferred form of the invention illustrated, four or more courses are knitted across the entire width of the fabric without interposed outward fabric transfer. The fabric area 24 thus provided, serves to strengthen the heel corner.

The machine is now conditioned for the knitting of the lower heel gores, the in-and-out motion of the needle bar knitting cycle being altered to prevent engagement of the needles with the usual press edge, the narrowing point units being conditioned to operate as beard closing elements in cooperation with selected heel needles, and the racking devices for imparting stepping movements to the narrowing point units and to the usual inner and outer carrier stops being conditioned for the heel knitting operation. Inasmuch as the details of the actuating and control mechanism for performing the several operations above briefly described, form specifically no part of the present invention, and are fully set forth in the copending application referred to, no specific illustration or description thereof is included herewith.

The knitting of the first lower heel gore 26 at each side of the fabric proceeds with the knitting of a first long heel course connecting the terminal wale loops of all of the heel fabric wales contained within the areas 16 at each side of the fabric. Short course carriers are used for this operation, one on each side of the fabric. For the knitting of the first long course of each of the left and right lower heel gores 26, assuming a traverse of the yarn carriers and slur cock from left to right, both narrowing point units will have been moved inwardly into operating position, and a selected carrier for the formation of the right heel gore will have been moved inwardly into position to feed yarn to the active right heel needles during this first traverse. During the subsequent knitting, the narrowing point units are stepped outwardly one index for the knitting of each succeeding course. The inner yarn carrier stops associated therewith are moved outwardly two indexes after each alternate course. At the completion of the first lower heel gore 26 at each side of the fabric, the narrowing point units are moved rapidly inwardly again to their knitting inward position, and the inner carrier stops are correspondingly adjusted to permit the inward traverse of the short course carriers to form the first long course of the second lower heel gore 28 at each side of the fabric. The knitting of the lower heel gores 28 now takes place, this operation being in every respect a duplicate of the operation previously described for the knitting of gores 26.

If so desired, a third gore also may be knitted in the same manner enclosing the space indicated in Fig. 1 between the dot-and-dash line 30 and the suture line of gore 28. At the completion of the knitting of the heel gores, the machine is again conditioned for knitting in the normal manner, the inner carrier stops being withdrawn from operation, the normal in-and-out knitting motion of the needles being restored, and the narrowing point units being conditioned for the performance of the foot narrowing operation.

Thereafter, a first foot course indicated at 32 is knitted, extending entirely across the fabric and including all of the held loops on the heel and instep needles to form the first course of fabric. It will be understood that if so desired, a third gore identical with gores 26, 28 may be provided, filling in an additional section of the heel extending to the dot-and-dash line 34 in Fig. 1. In the event that the third gore is added, the foot fabric will be correspondingly shortened to maintain a proper balance between the several fabric areas comprising the stocking blank.

While the steps of applicant's method are well adapted to be carried out upon the full-fashioned "legger" hosiery machine provided with the mechanisms and control devices above referred to, it will be understood that the method is not limited in its application to any particular machine, and that other devices may be employed particularly for the knitting of the gored lower heels within the scope of the invention.

It will be understood that the invention is not limited to the specific embodiment shown, and that various deviations may be made therefrom without departing from the spirit and scope of the appended claims.

What is claimed is:

1. A knitted stocking blank comprising with an ankle portion, a heel portion comprising left and right upper heel areas with an instep area interposed therebetween of the same length with said upper heel areas, said upper heel areas and instep area being shaped to provide a combined upper heel and interposed instep area wider toward its lower end, and lower heel areas comprising inwardly tapered gores formed of short courses of varying length extending inwardly and providing continuous selvage edges with the upper heel areas.

2. A knitted stocking blank comprising with an ankle portion, a heel portion comprising left and right upper heel areas with an instep area interposed therebetween of the same length with said upper heel areas widened toward its lower end to provide a combined upper heel and interposed instep area wider toward its lower end, in which combined area thread is knit across the upper heel areas and the instep area, and lower heel areas formed as continuations of said upper heel areas by continued knitting with separate threads.

3. A knitted stocking blank comprising with an ankle portion, a heel portion comprising left and right upper heel areas having parallel wales extending the length thereof to provide areas of substantially rectangular shape, an interposed instep area of the same length with said upper heel areas and of gradually increasing width, said upper heel and instep areas being formed with thread knitted across the upper heel areas and instep area, and left and right lower heel areas formed as extensions respectively of said upper heel areas by continued knitting with separate threads.

4. A knitted stocking blank comprising with an ankle portion, a heel portion comprising left and right upper heel areas having parallel wales extending the length thereof to produce areas of substantially rectangular shape, an interposed instep area of the same length with the upper heel areas and of gradually increasing width and with series of eyelets forming lines of demarcation between said upper heel and interposed instep areas, said upper heel and instep areas being formed with thread knitted across the upper heel areas and instep area, and left and right lower heel areas formed as extensions respectively of said upper heel areas by continued knitting with separate threads.

5. A knitted stocking blank comprising with an ankle portion, a heel portion consisting of a series of knitted courses extending across the blank with heel groups of loops at each end thereof stepped outwardly in selected courses to provide left and right upper heel areas of even width, with intervening groups of loops having loops added at each end thereof in next following courses to provide an interposed instep area of the same length with the upper heel areas and of increasing width and with series of eyelets forming lines of demarcation between said upper heel areas and interposed instep area, said upper heel and instep areas being formed with thread knitted across the upper heel areas and instep area, and series of short courses at each side of the fabric knitted with separate threads and forming left and right lower heel areas.

6. A knitted stocking blank comprising with an ankle portion, a heel portion consisting of a series of knitted courses extending across the blank with heel groups of loops at each end thereof stepped outwardly in selected courses to provide left and right upper heel areas of even width, and with the instep group of loops therebetween having loops added at the ends thereof in the next following courses to provide an interposed instep area of increasing width and with series of eyelets forming lines of demarcation between said upper heel areas and interposed instep areas, and inwardly tapered gored lower heel areas knitted from said heel groups of loops.

7. A knitted stocking blank comprising with an ankle portion, a heel portion comprising a series of knitted courses extending across the blank with end groups of heel loops stepped outwardly in selected courses to provide upper heel areas of substantially even width, and with intervening instep groups of loops having loops progressively added at each end thereof in the next following courses to provide an intervening instep area of increasing width, and with series of eyelets separating said upper heel and interposed instep areas, a plurality of courses of the same length extending across the blank, and series of short courses forming inwardly tapered gored lower heel areas knitted from said upper heel groups of loops.

8. A knitted stocking blank comprising with an ankle portion, a heel portion comprising left and right upper heel areas of substantially even width, an interposed instep area of the same length with the upper heel areas and widened towards its lower end, said upper heel and instep areas being formed with thread knitted across the upper heel areas and instep area, left and right lower heel areas formed as a continuation of the upper heel areas by continued knitting with separate threads, and a foot portion connecting with said interposed instep portion and lower heel areas.

9. A knitted stocking blank comprising an ankle portion, a series of courses extending across the fabric providing left and right upper heel areas formed of groups of loops of equal length in successive courses and progressively widened groups of instep loops interposed between the heel groups in certain of said successive courses, said upper heel and instep areas being formed with thread knitted across the upper heel areas and instep area, gored lower heel areas formed as a continuation of the upper heel areas by continued knitting with separate threads, and a foot area connected by course knitting across said lower gored heel and interposed instep area.

10. A knitted stocking blank comprising an ankle portion, left and right upper heel areas of rectangular shape, and an interposed instep area of the same length with said upper heel areas and widened toward its lower end, said upper heel and instep areas being formed with thread knitted across the upper heel areas and instep area, gored heel areas formed as a continuation of the upper heel areas by continued knitting with separate threads, and a foot area connected by knitting across said gored heel and instep areas.

11. A knitted stocking blank comprising an ankle portion, left and right upper heel areas of substantially even width, each formed of a series of parallel wales, an interposed instep area between said upper heel areas of the same length with said upper heel areas and of increasing width toward its lower end, gored lower heel areas formed of inwardly extending short courses of varying length, and a foot area connected across said gored heel areas and said interposed instep area, and with the same selvage wales forming the selvage edges of the ankle, the upper heel areas, the gored heel areas, and the foot area.

12. A knitted stocking blank comprising an ankle portion, left and right upper heel areas of oblong shape formed of a series of parallel wales and with the same number of loops in successive courses, an interposed instep area of the same length with said upper heel areas and composed of intervening groups of loops of progressively increasing number in following courses and with a series of eyelets forming a line of demarcation between said instep and upper heel areas, said upper heel and instep areas being formed with thread knitted across the upper heel areas and instep area, gored heel areas formed as a continuation of said upper heel areas by continued knitting with separate threads, and a foot area connected by knitting across said gored heel areas and instep area.

13. A stocking blank comprising an ankle portion, left and right upper heel areas of rectangular shape comprising a number of parallel wales providing groups of loops in successive courses of equal length, an instep area of gradually increasing width toward its lower end composed of intervening groups of loops of progressively greater number in following courses, lower heel areas forming a continuation of said upper heel areas composed of a plurality of inwardly tapered gores having their apexes terminating substantially upon the line of juncture of the upper heel areas and interposed instep area, and a foot area connected by knitting with said lower heel and instep areas.

14. A knitted stocking blank comprising with an ankle portion, a series of courses knitted across the blank from said ankle portion having end

groups of loops of substantially the same number in selected courses stepped outwardly and with loops added to the intervening groups of loops in following courses to form left and right upper heel areas of substantially even width and an interposed instep area of progressively greater width with series of eyelets forming lines of demarcation between said upper heel and interposed instep areas, inwardly tapered gored lower heel areas knitted as continuations of said upper heel areas, each comprising a series of three left and three right lower heel gores, each said gore comprising a first short course extending inwardly from the selvage edge of the blank, and following courses successively shortened at their inner ends, and a foot portion connected by knitting to the gored lower heel and interposed instep portions providing a line of demarcation between the gored lower heel and foot which is substantially a parallel continuation of said line of demarcation between the upper heel and interposed instep areas.

15. The method of knitting the heel portion of a shaped hosiery blank, which comprises knitting a series of courses entirely across the blank, transferring left and right end groups of terminal upper heel wale loops of the same number in selected courses of said series outwardly, and adding loops to the intervening group of loops in following courses to form upper heel areas of even width and a progressively widened intervening instep area, and knitting short left and right lower heel courses from the terminal wale loops of the upper heel areas while holding the terminal loops of intervening inactive wales.

16. The method of knitting the heel portion of a shaped hosiery blank, which comprises knitting a series of courses entirely across the blank, transferring left and right end groups of terminal upper heel wale loops of the same number in selected courses of said series outwardly, and adding loops to the intervening groups of loops in following courses to form upper heel areas of even width and a progressively widened intervening instep area, and knitting series of short left and right lower heel courses of successively varying length at their inner ends while holding the instep and inactive heel terminal wale loops.

17. The method of knitting the heel portion of a shaped hosiery blank, which comprises knitting a series of courses entirely across the blank, transferring left and right end groups of terminal upper heel wale loops of the same number in selected courses of said series outwardly, and adding loops to the intervening group of loops in following courses to form upper heel areas of even width and a progressively widened intervening instep area, knitting a first left and right lower heel short course upon the terminal wale loops of said upper heel areas, and knitting from each short course a series of short courses progressively shorter at their inner ends while holding instep and inactive heel terminal wale loops to form a lower heel gore, thereafter knitting an initial left and right second lower heel gore short course upon all of said left and right heel terminal wale loops, and knitting from said second lower heel gore short course a series of left and right heel gore courses successively shorter at their inner ends while holding instep and inactive heel terminal wale loops to form the second left and right lower heel gores.

18. The method of knitting the heel portion of a shaped hosiery blank, which comprises knitting a series of courses entirely across the blank,

transferring left and right end groups of terminal upper heel wale loops of the same number in selected course of said series outwardly, and adding loops to the intervening group of loops in following courses to form upper heel areas of even width and an intervening instep area of progressively greater width, and thereafter knitting a series of left and right lower heel gores, which comprises for each left and right lower heel gore, knitting a first left and right lower heel short course of a length extending from the selvage edges inwardly upon substantially the number of terminal wale loops of said upper heels, and thereafter knitting a series of short left and right lower heel courses progressively shortened at their inner ends while holding the instep and inactive heel terminal wale loops.

19. The method of knitting the heel portion of a shaped hosiery blank, which comprises knitting a series of courses entirely across the blank, transferring left and right end groups of terminal upper heel wale loops of the same number in selected courses of said series outwardly, and adding loops to the intervening groups of loops in following courses to form upper heel areas of even width and an intervening instep area of progressively greater width, and knitting series of short left and right lower heel courses of successively varying length at their inner ends while holding the instep and inactive heel terminal wale loops, and knitting a first course of foot fabric across the width of the blank upon all of the left and right heel and instep terminal wale loops.

20. The method of knitting the heel portion of a shaped hosiery blank, which comprises knitting a series of courses entirely across the blank, transferring left and right end groups of terminal upper heel wale loops of the same number in selected courses of said series outwardly, and adding loops to the intervening group of loops in following courses to form upper heel areas of even width and an intervening instep area of progressively greater width with eyelets forming a line of demarcation between said upper heel and interposed widened instep fabric areas, knitting a plurality of plain courses entirely across the blank, and thereafter knitting left and right lower heel gores which consists in knitting series of left and right lower heel short courses extending inwardly from the selvage edges of the blank of varying length including knitting the longest short course of each gore to form the apex of said gore substantially in line with said line of demarcation holding the instep and inactive heel terminal wale loops, and thereafter knitting a first course of foot fabric entirely across the blank upon all of the lower heel and instep terminal wale loops.

21. A knitted stocking blank comprising with an ankle portion, a heel portion consisting of a series of knitted courses extending across the blank with heel groups of loops at each end thereof stepped outwardly in selected courses to provide left and right upper heel areas of even width, and with the instep group of loops therebetween having loops added at the ends thereof in the next following courses to provide an interposed instep area of increasing width, and with series of eyelets forming lines of demarcation between said upper heel areas and interposed instep area, and gored lower heel areas comprising a plurality of similar inwardly tapered gores knitted from said heel groups of loops, each of said gores consisting of an initial long course and a

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plurality of additional courses successively shortened at their inner ends.

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