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J. LAWSON ET AL

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SPLIT FOOT HOSIERY AND METHOD OF MAKING SAME

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Fig. 1.

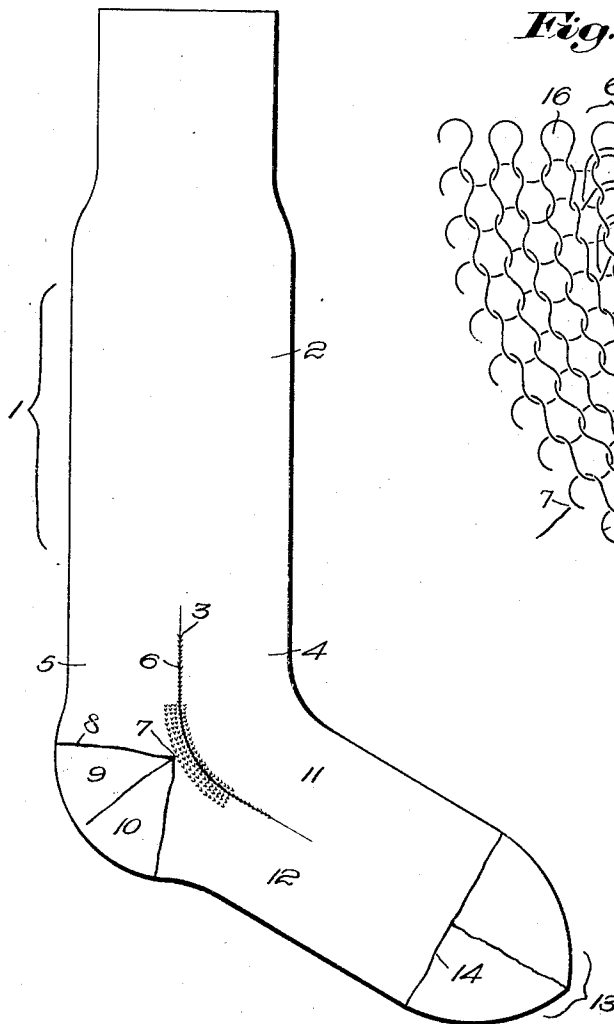
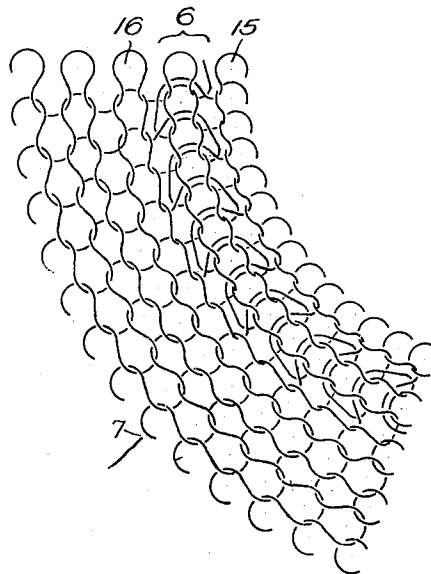


Fig. 2.



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SPLIT-FOOT HOSIERY AND METHOD OF MAKING SAME

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This invention relates to split work hosiery and to the method of making the same.

In order that the principle of the invention may be readily understood, a single embodiment thereof is disclosed in the accompanying drawing, wherein—

Fig. 1 is a side elevation of a stocking constructed in accordance with this invention; and

Fig. 2 is a detail, greatly enlarged, showing one type of suture seam that may be employed in the practice of the invention.

Split work hosiery has long been manufactured, but so far as we are aware, when the split work extends throughout the foot or in the ankle portion, it meets the inner corners or angles of the heel pocket. Prior to this invention it had not been appreciated, so far as we are aware, that the immediate proximity or actual contact of the inner corners of the heel and the suture seams tended to weaken the stocking, or to cause a break at or closely adjacent to the point of contact of said suture seams at the said inner point of the heel upon each side of the stocking.

After much experimentation it has been discovered that the tendency of split work hosiery to break at one of the inner corners of the heel is due to the immediate proximity or contact of said heel points and the suture seams, and we have devised mechanism whereby the stocking may be constructed to avoid this defect. Such mechanism and that portion of the process more properly claimable therewith are made the subject of a separate application, Ser. No. 288,856, filed June 28, 1928. In this application there is disclosed and claimed the novel hosiery or fabric as well as broadly the method of making the same.

Referring more particularly to the drawing, Fig. 1 represents a hose or stocking at 1. It is to be understood that the stocking may be of the usual length for women, or it may be a hose adapted for men's wear. The invention is in no wise restricted to either type of hosiery. The leg portion of the stocking indicated at 2 is knitted by round and round work upon any suitable type of machine, such, for example, as a Banner machine hav-

ing spring beard or latch needles. At a suitable point in the leg, as, for example, at the point 3, split work is commenced, as preferably the entire stocking, excepting possibly the rib top, is knitted upon the same machine. The machine employed is preferably one having a main feed and an auxiliary feed, the main feed only being in action during round and round knitting; that is, until the point 3 is reached. At such point 3 the auxiliary feed is thrown into action and the motion is changed from circular to reciprocating, whereby the point or instep portion 4 of the ankle is knitted upon one set of needles and the rear part 5 of the ankle is knitted upon the other set of needles. Assuming that the machine has 240 needles, and that of these needles, 120 are long butt needles and 120 are short butt needles, we provide jacks under all of the needles, but under a certain number of the short butt needles at each end of the short butt series, we provide special butts which are acted upon by a special cam, so that in effect the chosen number of short butt needles at each end of the short butt series act with the long butt needles. While within the scope of our invention, we may thus act specially upon any desired number of the short butt needles at both ends of the short butt series, we preferably cause three of the short butt needles at each end of the short butt series to be so acted upon specially. The results is that the suture seam 6 is removed three wales from the inner point 7 of the heel at each side of the stocking. That is to say, the rear portion 5 of the ankle includes not only the 120 heel needles but also six of the short butt needles with the result that the points 7 of the heel are removed by three wales from the suture seams 6. When the course indicated by the line 8 is reached, the 114 short butt needles are rendered inactive, the knitting of the portion 4 having continued up to the time the course indicated at 8 is reached. While the knitting is temporarily suspended upon the 114 short butt needles, the heel segments 9 and 10 are knitted in the usual manner by narrowing and widening, and as soon as the heel is completed, the said 114 short

butt needles are restored to action and the knitting of the foot is proceeded with to make the upper half of the foot 11 and the lower half of the foot 12 by split work. The toe 13 is knitted in customary manner by narrowing and widening, and the stocking is afterward seamed up to make the toe seam 14.

In making the suture seams 6, each of which extends from its commencement which may be a point in proximity to the points 7 of the heel (but removed laterally by a definite number of wales therefrom, as herein-after stated) to the toe, it will be understood that two threads are fed from preferably diametrically opposed points in the machine, the needle cylinder being reciprocated, through within the scope of the invention the needle carrier may remain stationary and the knitting cams may be reciprocated.

Our invention is not restricted to the use of any particular suture seam, as we may employ any suitable suture seam whereby the main thread and the auxiliary thread are interengaged along the extent of the suture seam. In Fig. 2, we have illustrated upon an enlarged scale one character of suture seam that may be employed, but without in any way limiting our invention thereto. In said figure, the thread wherefrom the instep portion 4 and the top portions 11 of the foot are knitted is indicated at 15, and the thread by which the rear portion 5 of the ankle and the sole 12 of the foot are knitted is indicated at 16. In Fig. 2, it will be observed that the suture seam 6 is composed of loops and parts of loops of the two threads 15, 16 interknitted as illustrated.

A hose or stocking knitted in accordance with our invention is of increased strength at the points of the heel, since the definite separation of the two suture seams from the points 7 of the heel prevents the breaking that was customary in split work hosiery heretofore made, wherein the rear portion of the ankle and the sole of the foot was made upon the long butt or heel needles only, and all the short butt needles were used for knitting the front of the ankle and the top of the foot.

Having thus described one illustrative embodiment of the invention, it is to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

Claims:—

1. Split work hosiery having a seamed heel portion, and wherein the split work suture seams are spaced by one or more wales from the inner points of the seamed heel pocket.

2. Split work hosiery wherein the leg portion is composed of courses of continuous or round and round knitting and the front and rear portions of the ankle are formed by re-

ciprocating knitting with suture seams uniting said front and rear portions, the heel having narrowed and widened segments, the inner points whereof are spaced from said suture seams.

3. Split work hosiery whereof the leg is composed of courses of round and round or seamless knitting and the ankle and foot are composed of split work united in suture seams spaced from the inner corners of the narrowed and widened heel pockets.

4. Split work hosiery having a seamless leg and split work ankle and narrowed and widened heel pockets, each suture seam of the split work being spaced substantially three wales from the adjacent corner of the heel pocket.

5. That method of making split work hosiery comprising knitting the leg by round and round or seamless knitting, knitting the front and rear portions of the ankle by reciprocating knitting, using two distinct threads fed at spaced points whereby said front and rear portions are united into a suture seam, and knitting a heel pocket by narrowing and widening, and so apportioning the entire circle of needles to the two threads that the suture seams are thereby spaced one or more wales from the inner corners of the heel pockets.

6. That method of making split work hosiery comprising knitting the leg by round and round or seamless knitting, knitting the front and rear portions of the ankle by reciprocating knitting, using two distinct threads fed at spaced points whereby said front and rear portions are united into a suture seam, the thread for the rear portion being supplied to the long butt or heel needles and also to a small plurality of short butt needles at each end of the short butt series, and the other thread being supplied to the remaining short butt needles, and knitting the heel pocket by narrowing and widening, whereby both suture seams are removed the distance of said small plurality of needles from said suture seam.

7. Split work, seamless hosiery wherein the ankle portion and the foot are of split work and the leg is of round and round or seamless work, the heel being narrowed and widened and having suture seams uniting the narrowed and widened portions, the inner ends of said heel suture seams being spaced by a small plurality of wales from the suture seams of the split work, whereby the weakening of the stocking, because of the immediate proximity of the heel suture seams and the split-work suture seams, is prevented.

8. A seamless stocking or hose, the leg whereof is formed by round and round knitting, the heel being formed by narrowed and widened parts united by heel suture seams extending to the inner corners of the heel pocket, the ankle of the hose or stocking, as

far as the inner points of the heel, being formed of split work having opposite suture seams, said suture seams being spaced from the inner ends of the heel suture seams by substantially three wales, whereby the weakening of the stocking incident to the immediate proximity or actual contact of the heel suture seams and the split-work suture seams is prevented.

9. That method of making split work hosiery comprising knitting the leg by round and round or seamless knitting, knitting the front and rear portions of the ankle by reciprocating knitting, using two wholly distinct threads fed at spaced points, whereby said front and rear portions are united by two opposite split-work suture seams, knitting a heel pocket by narrowing and widening and connecting the narrowed and widened portion by two heel suture seams terminating a small plurality of number of wales from the split-work suture seams, and thereafter knitting the foot and toe.

10. Split work, seamless hosiery wherein the ankle portion and the foot are of split work and the leg is of round and round work, the heel being narrowed and widened and having suture seams uniting the narrowed and widened portions, the inner ends of said heel suture seams being spaced by a small plurality of wales from the suture seams of the split work, whereby the weakening of the stocking, because of the immediate proximity of the heel suture seams and the split-work suture seams, is prevented.

11. A split seam or sutured stocking comprising a high splice portion, a seamed heel portion, a sole portion, an instep and a body portion, the high splice, heel and sole portions being joined to the instep portion by a suture seam, a part of the high splice portion extending one or more wales into the instep away from the heel seam a plurality of courses above the highest course of the heel portion and a part of the sole portion extending one or more wales into the instep to the same extent as the said part of the high splice portion for a plurality of courses of the foot structure, whereby the terminus of the heel seam is spaced from the split seam suture.

In testimony whereof, we have signed our names to this specification.

JOHN LAWSON.

ROBERT H. LAWSON.