May 21, 1946. L. S. HERBERT 2,400,692

FOOT COVERING

Original Filed March 24, 1943 2 Sheets-Sheet 1

Fig. 1

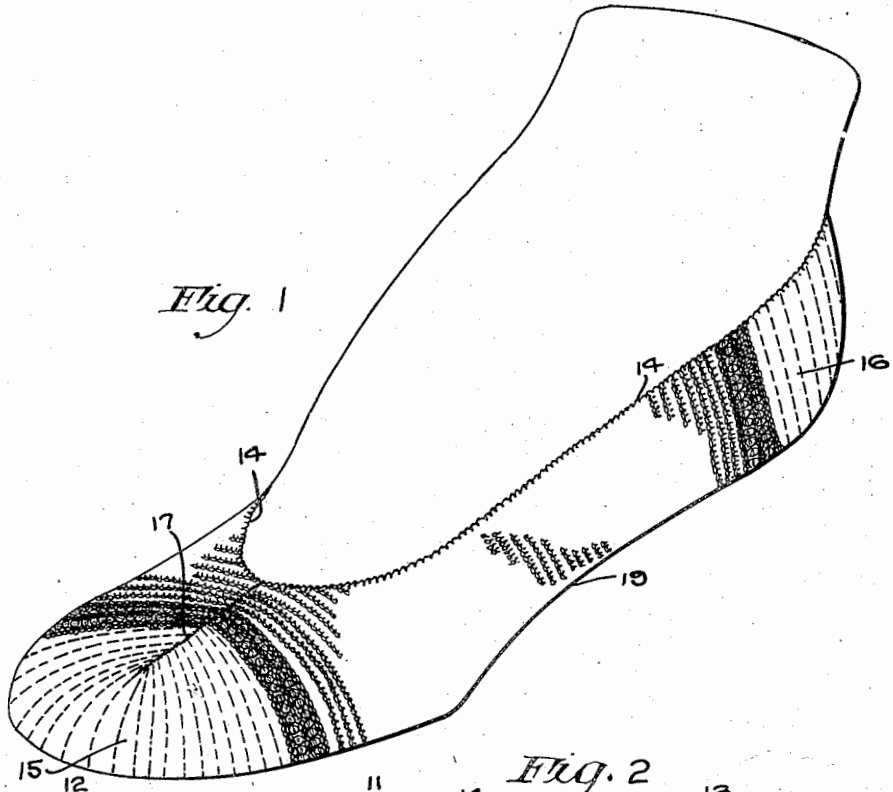

Fig. 2

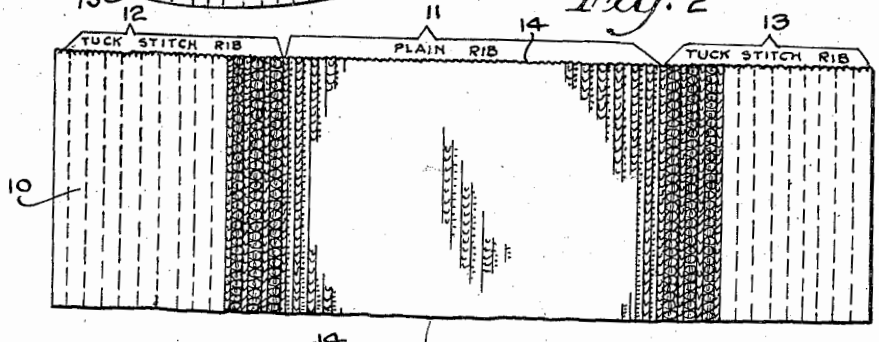

Fig. 3

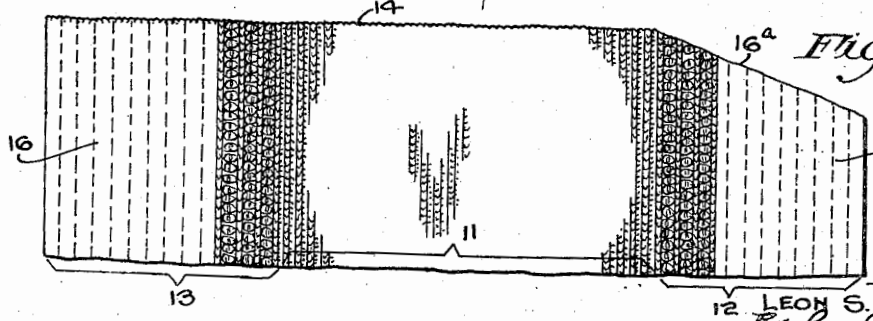

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Fig. 4

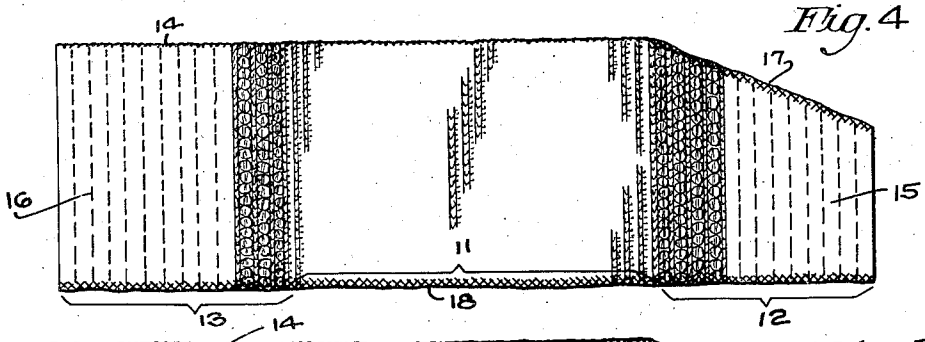


Fig. 5

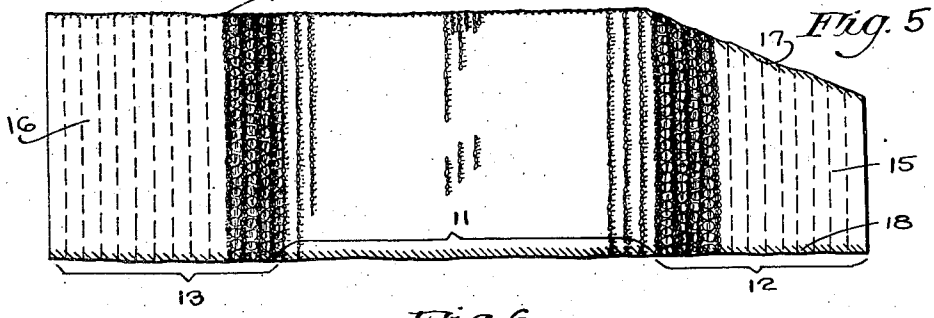


Fig. 6

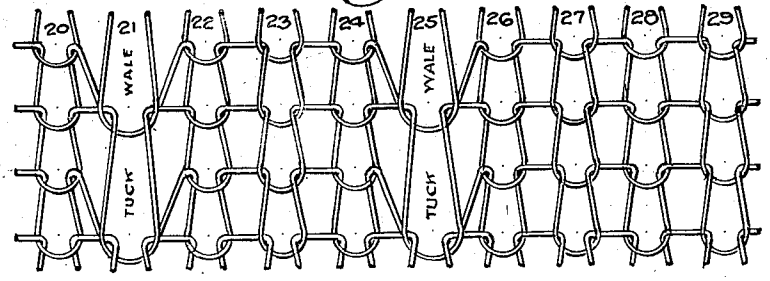
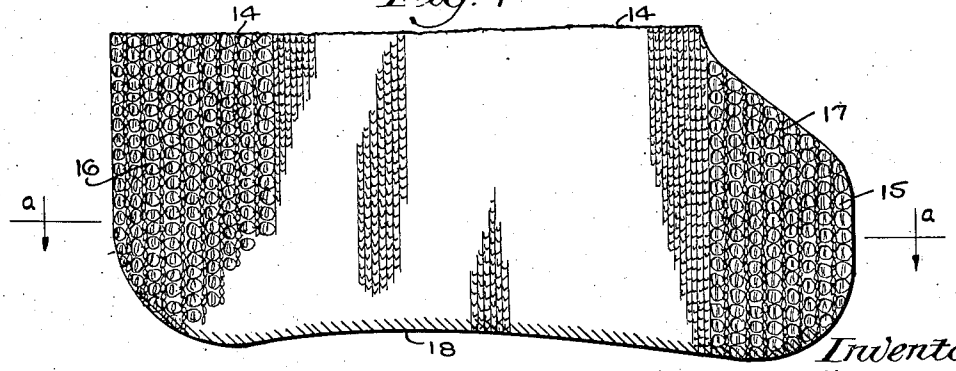


Fig. 7



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UNITED STATES PATENT OFFICE

2,400,692

FOOT COVERING

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Original application March 24, 1943, Serial No. 480,265. Divided and this application December 9, 1943, Serial No. 513,597

7 Claims. (Cl. 36—10)

This application is a division of my application, Serial No. 480,265, filed March 24, 1943, now Patent No. 2,344,773, granted March 21, 1944.

This invention relates to knitted foot coverings and more particularly to the slipper type of knitted foot covering adapted to be worn inside a low cut ladies' shoe or slipper, it being among the principal objects of this invention to provide a foot covering of rib knitted fabric in which the natural elasticity of the fabric extends lengthwise of the foot and is greater in the sole section than in the heel and toe sections to thereby insure a proper and comfortable fit of the covering upon the foot.

It is also an object of this invention to make the slipper foot covering from a selvage edge tubular section of true rib seamless fabric of a diameter large enough so that the section, which has natural stretch or elasticity coursewise thereof, will fit over a number of sizes of feet with the seamless courses extending lengthwise of the foot around the heel and the toe thereof, thus making it possible not only for a manufacturer of the foot covering of this invention to supply his trade with a lesser number of sizes, but also for the retailer to stock a lesser number of sizes and yet meet all of the user requirements.

Other objects and advantages of the invention will be apparent from the following description of a preferred embodiment thereof taken in connection with the accompanying drawings in which:

Figure 1 is a view showing the slipper foot covering in place on the foot of a wearer;

Figure 2 is a side view of a tubular section of seamless knitted fabric;

Figure 3 is a view showing the section turned inside out and with a portion thereof cut away;

Figure 4 is a view similar to Figure 3 with certain edges joined together;

Figure 5 is a view of the article shown in Figure 4 turned right side out;

Figure 6 is a view of the fabric stitches in the tuck stitch portion of the fabric; and

Figure 7 is a side elevational view of the finished product as it appears when dyed and boarded to shape.

In providing the slipper foot covering of the present invention, a lengthwise extending tube of knitted fabric is provided of a diameter large enough so that the seamless courses are of such length, allowing for the natural inherent stretch or elasticity thereof, as to extend coursewise in a direction extending lengthwise of the foot and around the heel and the toe thereof. Since a knitted fabric has greater stretch or elasticity coursewise than walewise, it is evident that the slipper foot covering so made will fit snugly around the heel and the toe of the foot of the wearer. So far as the feature of the invention relating to the courses extending lengthwise of the foot is concerned, it is obvious that a seamless tube is not essential to the same and that cut and sewn flat rib knitted fabric may be employed without departing from the spirit of the invention, although in its preferred embodiment the article of this invention is fabricated of circular knit seamless fabric, as with this type of fabric the method of making the finished product is simpler and less expensive.

In the preferred embodiment rib rather than plain fabric is used as the former has a greater stretch or elasticity than the latter, although the latter may be used if desired. The true rib fabric may be used throughout the slipper foot, but if less stretch is desired in the heel and toe areas, as when the sole section has sufficient elasticity, then the stitch structure of the heel and the toe may be varied over the true rib stitch structure to reduce the elasticity of the same, such a variation in stitch structure being obtained, for example, by knitting the heel and the toe sections of tuck stitch rib, transferred stitches or even plain jersey fabric.

In the production of the present invention, the lengthwise extending seamless tube is provided with selvage constructions, in accordance with conventional practice in the manufacture of tubular knitted articles, so that the tube may be separated into relatively short tubular sections, one edge of which has a selvage, this edge forming the upper finished edge of the slipper foot covering, as will appear more fully hereinafter.

A tubular section of the seamless tube just described is shown in side view in Figure 2 at **10**, this section being so knit as to have a pair of circumferentially spaced walewise-extending plain true rib sections **11**—**11** and a pair of circumferentially spaced walewise-extending tuck stitch rib sections **12** and **13**, the true rib sections being alternately spaced in relation to the tuck stitch rib sections. At the upper edge there is the selvage **14**, which may be a tuck stitch selvage in the case of rib fabric, this selvage extending completely around the tubular section **10**. The tuck stitches in the areas **12** and **13** may be made upon either the cylinder or the dial needles and may be made in any desired pattern so long as they extend substantially throughout the areas **12** and **13** for a purpose which will be apparent herein-

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after. The areas 12 and 13 may contain other stitch variations than the tuck stitches, such, for example, as transferred stitches or they may be made of plain jersey fabric, the purpose in all such cases being to reduce the elasticity of the heel and toe portions of the foot covering, these portions being designated in Figure 1 by the reference numerals 15 and 16.

In Figure 3, the tubular section 10 has been turned inside out and one edge of the toe section 15 has been shaped, as shown at 16a, by cutting. As shown in Figure 4, the seam 17 is used to join together the cut edges 16a to form the covered toe section 15 and the seam 18 is used to join together the lower edges of the tubular section 10 to close the bottom of the same to form the bottom or sole portion 19 of the slipper foot covering. In Figure 5, the cut and seamed article is shown right side out, this article being then given its finished shape, by boarding or otherwise, as shown in Figure 7.

In Figure 6 is shown a section of the tubular fabric at the juncture between the plain rib and the tucked rib sections, the even-numbered wales 20, 22, 24, 26 and 28 being drawn in one direction and the odd-numbered wales 21, 23, 25, 27 and 29 being drawn in the opposite direction. In each of the wales 21 and 25 there is a series of tuck stitches and in the tuck stitch sections 12 and 13 of the fabric, this wale of tuck stitches is repeated at regular intervals. The tuck stitches may be arranged in any desired design and they may be included in either or both of the toe and heel portions.

When the slipper foot is made from a tubular section of rib fabric it is relatively immaterial which side of the fabric is outermost as both faces of the plain rib are substantially alike. In the tuck stitch rib sections 12 and 13, the tucks will be on one side or the other of the fabric depending upon whether they have been made by the cylinder or by the dial needles and in these sections the tucks may be placed on the inside or on the outside of the finished product as desired without departing from the spirit of the invention.

If desired, and in order to provide the covering with some further degree of shape, the flattened tube 10 may be further trimmed in the regions of the lower toe and heel portions to provide somewhat rounded shapes in these regions, the cut edges of the tube and the lower edges thereof extending along the sole portion being then joined together by the continuous line of stitching 18. It will be understood, however, that this shaping in the regions of the lower toe and heel portions is not essential and may be dispensed with in view of the fact that the knitted fabric per se has sufficient elasticity that the desired finished shape may be obtained simply by shaping and boarding in accordance with conventional practice. In its preferred circular knit construction, the completed covering, as shown in Figure 7, is of circumferentially seamless or endless knitted constructon in the plane of the line *a—a*, and inasmuch as the knitted courses also extend circumferentially about the foot (i. e. lengthwise thereof), the covering has sufficient elasticity to fit snugly over the foot.

It will be seen that I have provided a foot covering of knitted fabric in the form of a slipper foot in which the courses extend lengthwise of the foot so that the natural elasticity of the textile fabric causes the covering to fit snugly over the foot without the use of rubber or elastic threads incorporated therein. The use of a rib fabric provides a certain amount of thickness or body to the foot covering while at the same time providing a maximum of elasticity. The provision of the tuck stitch wales in the heel and in the toe sections, as in the form of construction shown in Figures 1 to 7, reduces somewhat the elasticity in these sections so that the toe and heel portions 15 and 16 of the finished covering more snugly fit about the toe and heel of the wearer, this snug fit being facilitated by the greater elasticity of the rib fabric of the lower sole portion which permits the foot to be fitted without binding discomfort. The inherent selvage edge 14 made in the knitting of the tubular section 10 provides a finished edge for the article of apparel without any further operations.

It will be understood, of course, that this invention is susceptible of various modifications which may be made from time to time without departing from the real spirit or general principles thereof, and it is accordingly intended to claim the same broadly, as well as specifically, as indicated in the appended claims.

What is claimed as new and useful is:

1. A slipper type foot covering of such height as to be completely concealed from view when worn within an outer pump or other such low-cut shoe and formed of a knitted fabric wherein the knitted courses all extend in a direction generally lengthwise of the foot and circumferentially about the heel and toe portions thereof, the upper edge of the fabric being provided with a straight course-wise extending finished selvage edge to prevent raveling thereof, and the upper front part of the fabric, when folded flatwise upon itself, extending along a diagonal line in continuation of the selvage edge providing registering ravel or unfinished edges, said latter edges being seamed together to provide the covering with a fashioned toe pocket and with an opening in the top thereof of substantially less circumferential extent than the overall peripheral length of the foot covering, the bottom of the folded fabric being seamed along a line paralleling the courses of the fabric and spaced from the selvage edges aforesaid and the line of the toe-fashioning seam.

2. A slipper type foot covering of the character defined in claim 1 wherein at least one portion thereof disposed adjacent one end of the intermediate sole portion of the covering is knitted of tuck stitches to provide said tuck stitch knitted portion with a lesser degree of stretch than the remaining portion of the covering.

3. A slipper type foot covering of the character defined in claim 1 wherein the toe and heel portions thereof are knitted of stitches differing in character from those of which the sole portion is knitted to provide for reduction in the stretch characteristic of the toe and portions of the covering as compared with that of the intermediate sole portion thereof.

4. A slipper type foot covering of the character defined in claim 1 wherein the toe and heel portions thereof are knitted of tuck stitches and the sole portion of plain stitches whereby to provide for reduced course-wise stretch of the covering in the toe and heel portions as compared with that in the intermediate sole portion thereof.

5. A slipper type foot covering of the character defined in claim 1 wherein a part of the fabric is fashioned to provide the covering with an upper portion in which the peripheral length thereof measured course-wise about the cover-

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ing decreases toward the open top thereof to provide the upper selvage edge thereof of such reduced peripheral length as to snugly embrace the foot immediately beneath the upper line of the outer shoe.

6. A slipper type foot covering of the character defined in claim 1 wherein at least a portion of the covering disposed between the upper and lower edges thereof and extending horizontally thereabout is of seamless knit construction throughout.

7. In a slipper type foot covering of the character defined in claim 1 wherein the aforesaid knitted courses extend continuously and without interruption around at least one end of the covering to form a seamless knit band extending horizontally around said end and from side to side thereof.

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