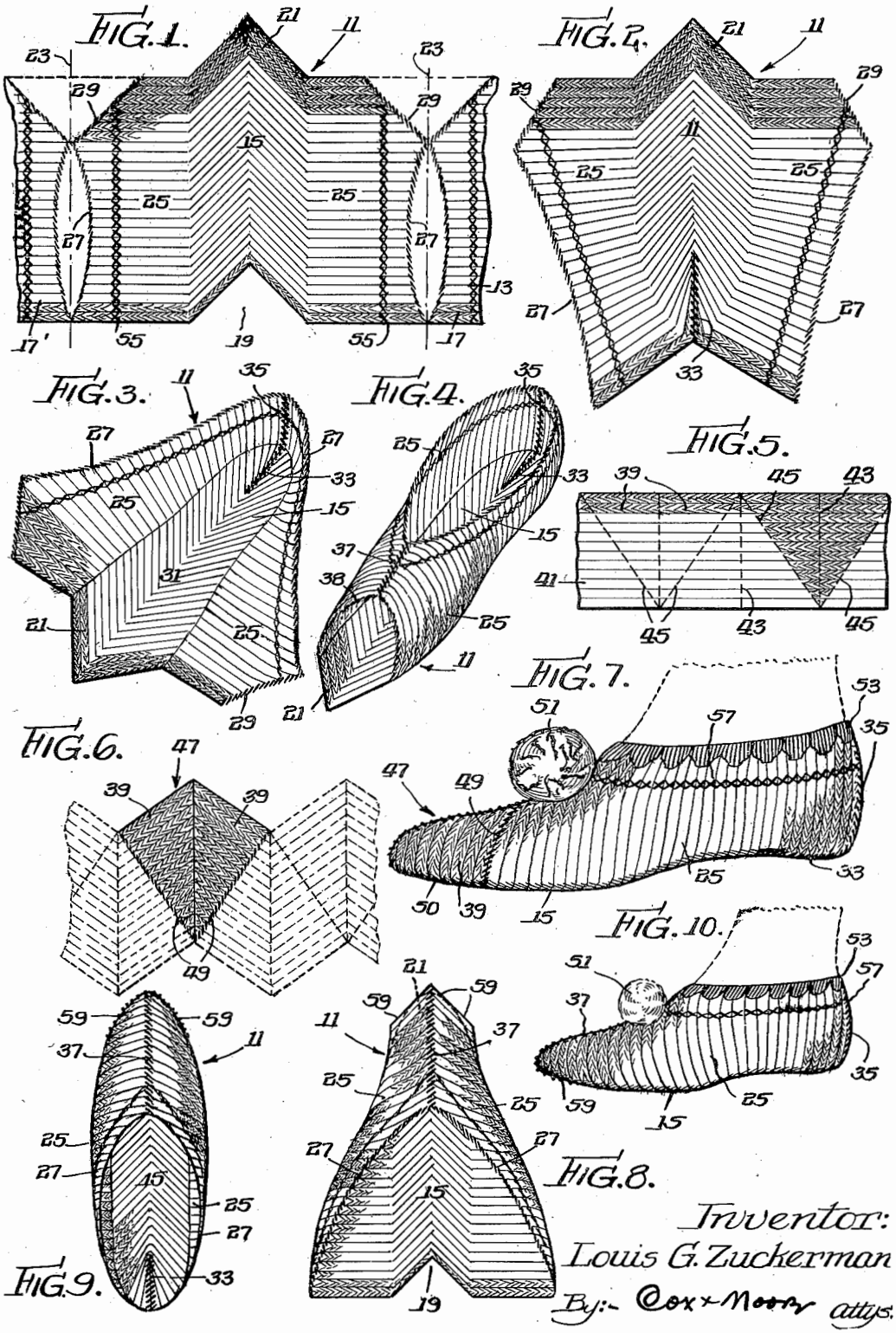
July 14, 1936. L. G. ZUCKERMAN 2,047,724

KNITTED ARTICLE AND METHOD OF MAKING SAME

Filed July 12, 1934



Patented July 14, 1936 2,047,724

UNITED STATES PATENT OFFICE

2,047,724

KNITTED ARTICLE AND METHOD OF MAKING SAME

Louis G. Zuckerman, Chicago, Ill.

Application July 12, 1934, Serial No. 734,744

9 Claims. (Cl. 66—177)

My invention relates in general to knitting and knitted articles and has more particular reference to knitted footwear and method of making the same.

An important object of the invention is to simplify the production of knitted articles fashioned or shaped to conform with the foot; a further object being to form a knitted article, shaped to fit the foot, from a knitted blank of inexpensive form requiring a minimum of folding and stitching to provide the finished article; and a still further object being to knit a continuous strip comprising several blanks and from which the blanks may be formed by cutting the strip into pieces of appropriate length.

Another object is to provide a blank from which to fashion a knitted article comprising spaced lateral ribbed portions and an intermediate ribbed portion formed as a continuous knitted element in which the ribs of the lateral portions are in alignment while the ribs of the intermediate portion are of herring bone character, the rib portions on one side of said portion making an angle with the ribs on the other side, said angularly disposed rib portions meeting preferably in the medial zone longitudinally of said intermediate portion; a further object being to utilize the lateral or side portions of the blank to form the upper or sides and instep covering portions, while the intermediate portion of the blank is arranged to form a sole in the finished article of footwear formed from the blank; and a further object being to form the article from the blank so that the apex of the angle formed by the mutually inclined ribs of the sole portion points toward the toe of the footwear.

Another object is to make the side and intermediate portions of the blank from yarns of contrasting color, the intermediate or sole portion of the blank being preferably knitted from a dark colored yarn to accentuate the sole in the resulting product, while the lateral or upper forming portions are preferably knitted from yarn of a lighter color.

Another important object is to utilize inserts, preferably triangular pieces of knitted fabric, with the blank to form a toe covering portion in the finished article; a further object being to form the triangular inserts by cutting the same from a continuously knitted strip of fabric having straight parallel ribs to reduce the cost of making the same; and a still further object being to make the triangular inserts from yarn of a color contrasting with the yarn in the rest of the upper forming portions in order to improve the pleasing decorative appearance of the footwear formed from the blank and the inserts.

Numerous other objects, advantages, and inherent functions of the invention will be appreciated as the same is more fully understood from the following description, which, taken with the accompanying drawing, discloses preferred embodiments of the invention and the manner in which the same may be practiced.

Referring to the drawing:

Figure 1 shows a blank embodying the present invention and indicates the manner in which the same may be formed by cutting it from a continuously knitted fabric strip.

Figure 2 shows the blank with the sides of the notch, formed in the blank at one end of the herring bone sole portion, seamed together to form a finished heel portion in the slipper sole.

Figure 3 shows the blank with the sole seam of Figure 2 continued to secure the edges of the spaced side portions of the blank together at one end of the blank in order to finish the heel of the slipper.

Figure 4 shows the side portions of the blank secured together in the instep portion of the slipper, leaving an opening in the upper portion at the toe of the slipper.

Figure 5 shows a continuous strip of knitted fabric and the manner of cutting inserts therefrom.

Figure 6 shows inserts as cut from the strip shown in Figure 5 ready to apply to fill the toe opening in the partially formed blank arranged as shown in Figure 4.

Figure 7 shows the finished article after the inserts have been applied.

Figures 8, 9, and 10 illustrate progressive steps in forming a slipper entirely from a blank of the kind shown in Figure 1 without the aid of inserts.

To illustrate my invention, I have shown on the drawing how I make fashioned footwear from knitted fabric. I accomplish this by first forming blanks 11, from which the finished articles are formed. The blanks are preferably formed by cutting the same from a strip of fabric 13, which may be made as a continuous strip on a knitting machine, if desired, and which comprises knitted portions 15 at equally spaced intervals in the strip. In these portions 15, the ribs of the knitted fabric are of herringbone arrangement, that is to say, the ribs on one side of a line extending across the strip medially of each portion 15, are inclined at an angle with respect to the ribs on the other side of the line. The

fabric strip intermediate the portions **15** comprises knitted portions **17** preferably about twice as long as the herring bone portions **15**. The several portions **17** also are formed throughout with parallel ribs extending in alignment so that the ribs of each portion **17** are continued in the same direction in the adjacent spaced portions **17**. The angular arrangement of the ribs in the herring bone portion **15** causes a triangular notch **19** on one side of the strip and a corresponding triangular projection portion **21** at the other. The individual blanks **11** may be formed by cutting the continuous strip **13** across at intervals along the lines of intersection **23** preferably in the sections **17** midway between the herring bone sections so that each blank comprises a herring bone section **15** flanked by sections **25** each comprising a half of a strip portion **17** and each having ribs aligned on opposite sides of the herring bone section and extending at right angles to the medial zone of the said section in which the angularly arranged ribs thereof meet. The opposite cut edges of the blank are preferably formed as shown in Figure 1 of the drawing, the edges being curved inwardly toward the herring bone portion **15** as at **27** from the side of the blank containing the notches **19** toward the side of the blank containing the projections **21**, the remaining edge being cut on a slant as shown at **29**. The curved cut edges **27** at opposite ends of the blank co-operate to form the ankle receiving opening in the finished article while the diagonally cut edges **29** are secured together to form an instep covering portion.

The herring bone portion forms the sole in the finished slipper and is preferably knitted from preferably dark colored yarn to contrast with lighter colored yarn of which the remainder of the blank is preferably made. The yarn, forming the sole portion **15**, also may be heavier and more durable than that used in the remaining portions of the blank which, of course, form the upper in the finished article and are not subjected to the heavy wear which takes place in the sole. If desired, an extra thread or threads may be knitted into the fabric in forming the sole portion in order to re-enforce the same and the stitches in the sole portion in a zone **31** midway of the opposite ends of the sole portion may be knitted more tightly in order to shape the sole slightly by making it narrower in the instep portions between the toe and heel as shown in Figure 3.

To fashion a slipper from the blank **11**, the edges defining the notch **19** are brought together and stitched as at **33** to form a rounded heel portion in the sole as shown in Figure 2. The stitching **33** may be continued as at **35** to join the side edges of the portions **25** adjacent the sole heel as shown in Figure 3 in order to complete the heel of the slipper. The diagonally cut edges **29** of the portions **25** may then be secured together as shown at **37** to form an instep covering leaving an opening **38** in the upper above the triangular projecting portion **21** of the blank. To fill this opening, I may use a piece or pieces of suitable knitted fabric and I have shown two similar triangular fabric pieces **39**, the peripheral configuration of which approximately conforms to the shape of a right triangle, the ribs of the pieces extending parallel with one of their shorter sides. These triangular pieces **39** may be formed by knitting a strip of material **41** having parallel continuous ribs and by cutting the strip along normal and diagonal lines of intersections **43** and **45** as shown in Figure 5, or the pieces **39** may be made by cutting the same from a continuous strip of herringbone knitted fabric, the ribs of adjacent runs of which meet at an angle as in Figure **6**. Where made from a straight ribbed fabric as shown in Figure 5, it is desirable to cut out the triangular portions completely and then sew the pieces together along their longer edges, i. e. the edges formed at the diagonal lines of intersection **45**, to form a quadrilateral insert **47**. Where the inserts are made from herringbone fabric, however, the quadrilateral insert may be cut directly from the strip merely by cutting the same along the diagonal lines of intersection **49**, as shown in Figure 6, thus eliminating a cutting and seaming operation on each insert.

The insert **47**, however formed, is secured in the opening **38**, the edges of the insert, which are parallel with the ribs thereof being seamed as at **49** to the side edges of the blank portions **25** so that the ribs of the insert are parallel with the ribs of the side portions **25** in the finished article as shown in Figure 7. The remaining edges of the insert **47** are stitched as at **50** to the inclined edges of the projecting portion **21** to complete the slipper.

The slipper, if desired, may be embellished with a pom-pom **51** and it is preferable to pipe or otherwise finish the raw edges **27**, which define the ankle opening as shown at **53** in order to prevent the knitted fabric from unravelling. A thread or threads of contrasting color may be knitted into the side portions of the blank as shown at **55** to provide a stripe **57** in the finished article. It is also desirable to form the various seams **33**, **35** on the inside of the slipper in order not to show on the outside of the finished article.

Slippers may also be made from the blank **11**, as shown in Figures 8, 9, and 10, without using inserts **47**, by altering the angularity of the diagonal cut **29** slightly and by stitching as at **59** the forward edges of the side portions **25** directly to the edges of the triangular projection **21**, the stitching **59** being circular to round the toe and the corners being cut off after stitching. In this form, the apex of the triangular portion has a tendency to be drawn upwardly around the front of the toe, giving a novel and attractive effect particularly where the sole portion **15** is made in a contrasting color.

It is thought that the invention and its numerous attendant advantages will be fully understood from the foregoing description and it is obvious that numerous changes may be made in the form, construction, and arrangement of the several parts without departing from the spirit or scope of the invention or sacrificing its attendant advantages, the forms herein described being preferred embodiments for the purpose of illustrating the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. A fashioned slipper comprising a piece of knitted fabric including an elongated sole portion having angularly disposed ribs in its opposite sides and upper portions having ribs and extending on opposite sides of said sole portion, said upper portions having edges secured together in the heel and instep and a knitted fabric insert of quadrilateral peripheral shape and having angularly disposed ribs parallel with two adjacent side edges of the insert, said insert being secured to and extending between the edges of the sole and the edges of the upper portions at the for-

ward end of the slipper in position to cover the toes of its wearer, the ribs of said insert extending, in the slipper parallel with the ribs of said upper portions.

2. A fashioned slipper comprising a piece of knitted fabric including an elongated sole portion having angularly disposed ribs in its opposite sides forming a notch at one end of the sole portion and a projection at the other end, said notch and projection having edges conforming with the angularity of the ribs of said portion, means securing together the edges of said notch to form said sole portion at its notched end as a slipper heel, and upper forming portions extending on opposite sides of said sole portion, said upper-forming portions having edges secured together in the heel and instep of the slipper.

3. A fashioned slipper comprising a piece of knitted fabric including an elongated sole portion having angularly disposed ribs and upper forming portions on opposite sides of said sole portion whereby the fabric piece has a notch in one lateral side edge and a projection on the other, means securing together the edges defining the notch to form a heel in said sole portion, means to secure together the edges of the upper forming portions adjacent said notch whereby to form a slipper heel, means to secure other edges of said upper forming portions together to form an instep covering portion.

4. A fashioned slipper comprising a piece of knitted fabric including an elongated sole portion extending across the fabric piece and having angularly disposed ribs in its opposite sides and upper forming portions extending on opposite sides of said sole portions whereby the fabric piece has a notch in one side edge and a projection in the opposite side edge, means comprising a continuous seam commencing at the apex of the notch and extending in position to secure together the sides defining said notch and the adjacent edges of said upper forming portions whereby to provide a seamed slipper heel in which the same extends medially of the upper heel portion and is continued into the heel portion of the sole.

5. A fashioned slipper as set forth in claim 1 wherein the insert is made of yarn contrasting in color with the yarn used in forming the upper portions of the slipper.

6. The method of forming a toe covering insert which comprises knitting a continuous strip of ribbed fabric having adjacent sections shaped as parallelograms, in which the ribs of the fabric extend parallel with opposed side edges of the parallelograms, and thereafter cutting the strip along lines of intersection comprising the diagonals of said parallelograms to form trapezoidal pieces having angularly extending ribs and thereafter utilizing the pieces to form the toe-covering portion in a slipper.

7. The method of making a toe covering insert for a slipper which comprises knitting a continuous fabric strip comprising straight parallel ribs, thereafter severing said strip along lines of intersection intersecting said ribs diagonally and at right angles to form triangular pieces having ribs extending parallel with an edge of the triangular pieces and terminating in an adjacent edge, then securing the edges of two of said pieces together to form a trapezoidal insert having angularly extending ribs and finally securing the insert in position to form a toe covering portion in a slipper.

8. A fashioned slipper comprising a piece of knitted fabric including an elongated sole portion having angularly disposed ribs in its opposite sides and forming a projection at one end of said sole portion, said projection having bounding edges conforming with the angularity of the ribs of said portion, and upper-forming portions extending on opposite sides of said sole portion and having edges secured together to form the instep of the slipper, the bounding edges of said projection being secured to the adjacent edges of said upper-forming portions to close the toe of the slipper.

9. A fashioned slipper comprising a piece of knitted fabric including an elongated sole portion having angularly disposed ribs in its opposite sides and upper portions having ribs and extending on opposite sides of said sole portion, said upper portions having lateral edges secured together in the heel of the slipper and diagonally extending end edge portions secured together at the instep of the slipper, said diagonally extending end edge portions being formed by cutting triangular elements from the corners of the knitted fabric piece, and a knitted fabric insert of quadrilateral shape comprising a pair of triangular pieces secured together along the long sides thereof, said insert being secured to and extending between the edges of the sole and of the upper forming portions at the forward end of the slipper in position to cover the toes of its wearer.

LOUIS G. ZUCKERMAN.