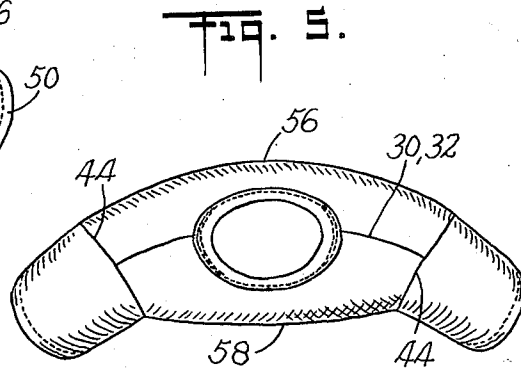
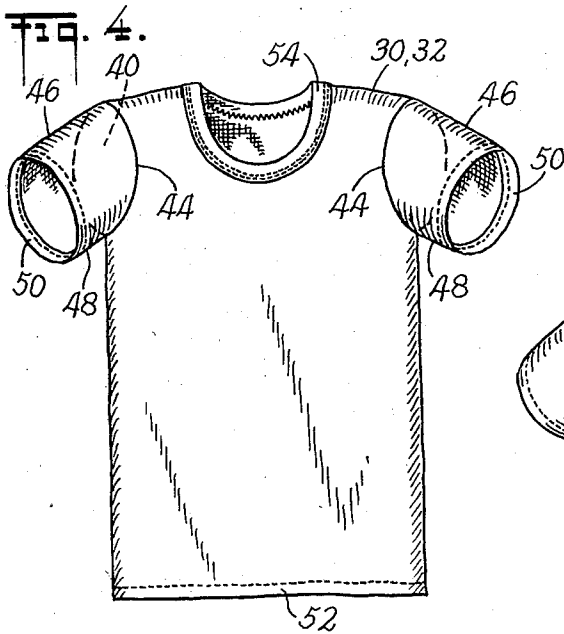
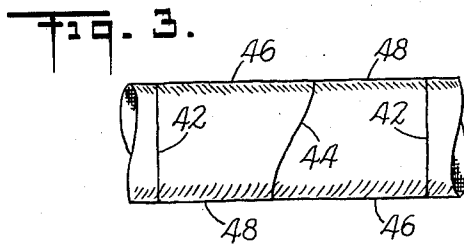
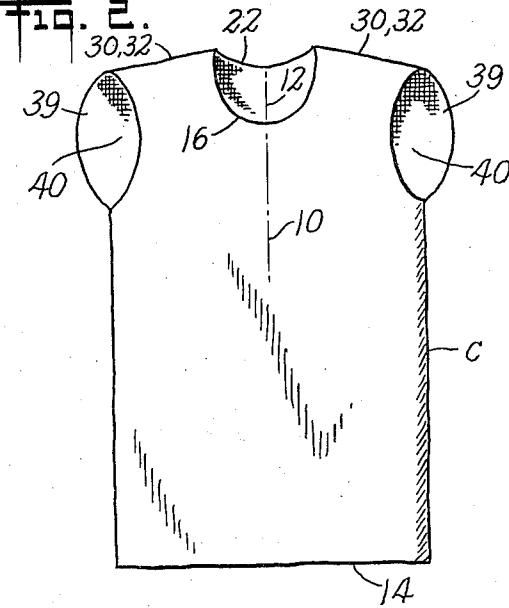
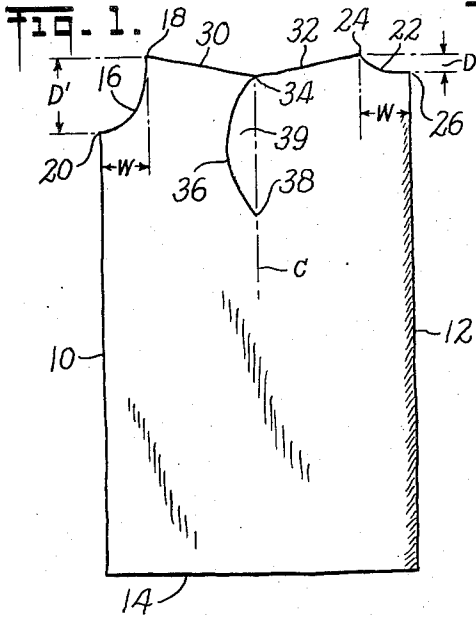


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L. L. MANGAN
METHOD OF MAKING SHIRTS

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INVENTOR
Lawrence I. Mangan
BY
Lurtis Morris & Safford
ATTORNEYS

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METHOD OF MAKING SHIRTS

Lawrence L. Mangan, Andrews, S. C., assignor to Oneita Knitting Mills, New York, N. Y.

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This invention relates to a method of making shirts which is particularly adapted to the making of knitted shirts such as T shirts and the like.

It is among the objects of the present invention to provide a practical and economical method for making shirts, particularly knitted T shirts of the type wherein the arms extend from the body at a forward angle, thereby eliminating binding across the wearer's back and the tops of his shoulders as well as excessive gathering and wrinkling at his armpits and thus providing a garment which is extremely comfortable to the wearer.

Although the invention is shown as applied to the manufacture of a specific form of knitted T shirt, it will be readily understood that it is equally applicable to shirts of other types.

In the drawings:

Figure 1 is a side view of the flattened tubular body section of the shirt, cut in accordance with a method within the scope of the present invention.

Figure 2 is a front view of the body section after the shoulder seams have been sewn.

Figure 3 is a fragmentary view of a length of tubular fabric from which the sleeves are formed, the fabric being marked to indicate the lines along which it is cut to form the sleeves.

Figure 4 is a front view of the completed T shirt made in accordance with a method within the scope of the present invention.

Figure 5 is a top view of the T shirt of Figure 4.

As may be seen in Figure 1, the body of the T shirt is formed from a section of seamless tubular knitted fabric such as may be produced in a circular knitting machine. This section of the tubular fabric is flattened by folding along the lines 10 and 12 and at one end it is cut through both layers of fabric along a transverse line to form the skirt 14 of the garment.

The upper end of the body section is formed by cutting through both layers of fabric in the following manner: A generally quarter-circular cutout 16 is formed in one upper corner of the flattened tube by cutting along a concavely curved line from the point 18 to the point 20. This cutout forms the front part of the neck opening. The rear portion of the neck opening is formed by a cutout 22 at the other upper corner of the flattened tube, this cutout 22 being formed by cutting along a concavely curved line from the point 24 to the point 26. The cutout 22 is the same width W as the cutout 16, but its depth D is considerably shorter than the depth D' of the cutout 16. The shoulder portions 30 and 32 of the shirt are formed by cutting along oblique lines from the points 18 and 24 respectively to a common point 34 lying on the center line C of the fabric. Then the fabric is cut along the curved line 36 commencing at the point 34 and terminating at a lower point 38 which also lies on the center line C. This curved line 36 is bowed in the direction of the cutout 16.

This completes all of the cuts necessary to form the body section of the shirt. It will be appreciated that

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all of the aforementioned cuts, which are made through both layers of the flattened tubular fabric, are of such nature that the body sections of a number of shirts may be cut simultaneously by stacking a large number of the flattened tubes one on top of another and using a cutting machine to cut through the entire stack.

After the body section has been cut in the manner described, the tube is unflattened and then again folded flat, this time along the aforesaid center line C, as shown in Figure 2. This brings together the shoulder portions 30 and 32 of the front and back portions of the garment, and these portions are sewn together to form the shoulder seams, using, for example, a two-thread, over-edge chain stitch. The side of the shirt which is exposed during sewing of course becomes the inside of the completed shirt.

With the body section of the shirt folded in the manner shown in Figure 2, the flaps 39 which have been formed by cutting along the line 36 (Figure 1) open out in the manner shown in Figure 2, to form the armholes 40. Because of the curvature of the cut 36 (Figure 1) the back of the shirt, as measured between the edges of the armholes 40, is substantially wider than the front.

The sleeves of the shirt are formed from a similar but smaller diameter seamless tube of knitted fabric, such as is shown in Figure 3. This fabric is flattened and cut into sections along the straight transverse lines 42 and the generally oblique curved lines 44. The lines 42 form the outer ends of the sleeves, while the curved lines 44 form the inner ends of the sleeves. The generally oblique shape of the inner ends of the sleeves makes one side 46 of each sleeve longer than the opposite side 48.

As shown in Figure 4, the sleeves are attached to the armholes of the body with their inner ends 44 enclosing the armholes and with the longer sides 46 of the sleeves on top and the shorter sides 48 of the sleeves on the bottom. The sleeves are preferably sewn onto the body of the shirt while the shirt and sleeves are turned inside out using, for example, a two-thread, over-edge chain stitch.

The outer ends of the sleeves are turned in for a short distance and stitched to form hems or cuffs 50, preferably before being sewn to the body. The skirt of the garment is likewise turned inwardly and stitched to form a hem 52, and a neck band 54 is sewn around the neck opening.

The fact that the inner ends 44 of the sleeves are cut generally obliquely, with the longer sides 46 of the sleeves being placed on top, causes the sleeves to extend somewhat downwardly from the body, as shown in Figure 4. Moreover, as may be seen in Figure 5, the fact that the back 56 of the body, as measured between the edges of the armholes 40, is wider than the front 58, causes the sleeves to extend somewhat forwardly. The resultant angle of the sleeves, which is a composite of the two angles described, has both downward and forward components of appreciable magnitude. This angularity of the sleeves simulates the normal inclination of the wearer's arms and produces a garment affording an unusual degree of comfort to the wearer. For example, the broad back 50 of the garment and the resulting forward inclination of the sleeves tends to prevent binding across the wearer's back when his arms are bent forwardly. The downward inclination of the arms prevents binding across the tops of the wearer's shoulders and also tends to minimize the amount of gathering and wrinkling at the armpits, to a considerable extent eliminating the uncomfortable wad of fabric which is normally created at that point.

The method of cutting the sleeves from a continuous tube of fabric as illustrated in Figure 3 eliminates all waste material in the formation of the sleeves. The only fabric wasted in the formation of the body section, illustrated

in Figure 1, is that which is cut away to form the neck opening.

Both the body section and the sleeves are so shaped that the fabric for a number of garments may be cut simultaneously by a conventional cutting machine. Thus, the cutting of the garment involves only a small amount of labor, and this further tends to reduce the cost of manufacture.

From the foregoing description it will be seen that the present invention provides a method for making shirts by which the aforementioned and other desirable objects have been achieved. However, it should be emphasized that the particular method shown and described herein is intended as merely illustrative of the invention rather than as restrictive thereof and that various changes may be made in such method without departing from the scope of the invention as defined by the appended claims.

I claim:

1. The method of making a shirt which comprises forming a tubular body section, folding said tubular body section flat, forming the front portion of the neck opening of said shirt by cutting off one of the upper corners of both layers of said flattened body section along a concavely curved line, forming the rear portion of said neck opening by cutting the other upper corner of both layers of said flattened body section along a concavely curved line, forming the armholes of said shirt by cutting both layers of said flattened body section along a single curved line which commences at the upper edge of said flattened body section and which extends generally downwardly along said body section, with the upper and lower ends coinciding approximately with the center line of said flattened body section and which with its intermediate portion bowed away from said center line in the direction of said front portion of said neck, unflattening said body section, folding out the flaps thus formed at the back portion thereof to open said armholes, forming a pair of tubular sleeves, and sewing the inner ends of said sleeves around said armholes, whereby said sleeves are caused to extend from said body section at an angle having a forward directional component of appreciable magnitude.

2. The method of making a knitted short-sleeved shirt which comprises knitting a seamless tubular body section, folding said tubular body section flat, forming the front portion of the neck opening of said shirt by cutting off one of the upper corners of both layers of said flattened body section along a concavely curved line, forming the rear portion of said neck opening by cutting the other upper corner of both layers of said flattened body section along a concavely curved line, forming the armholes of said shirt by cutting both layers of said flattened body section along a single curved line which commences at the upper edge of said flattened body section and which extends generally downwardly along said body section, with the upper and lower ends coinciding approximately with the center line of said flattened body section and which with its intermediate portion bowed away from said center line in the direction of said front portion of said neck, unflattening said body section, folding out the flaps thus formed at the back portion thereof to open said armholes, knitting a pair of seamless tubular sleeves, and sewing the inner ends of said sleeves around said armholes, whereby said sleeves are caused to extend from said body section at an angle having a forward directional component of appreciable magnitude.

3. The method of making a shirt which comprises form-

ing a tubular body section, folding said tubular body section flat, forming the front portion of the neck opening of said shirt by cutting off one of the upper corners of both layers of said flattened body section along a concavely curved line, forming the rear portion of said neck opening by cutting the other upper corner of both layers of said flattened body section along a concavely curved line, forming the armholes of said shirt by cutting both layers of said flattened body section along a single curved line which commences at the upper edge of said flattened body section and which extends generally downwardly along said body section, with the upper and lower ends coinciding approximately with the center line of said flattened body section and which with its intermediate portion bowed away from said center line in the direction of said front portion of said neck, unflattening said body section, folding out the flaps thus formed at the back portion thereof to open said armholes, forming a pair of tubular sleeves the outer ends of which are substantially perpendicular to the longitudinal axis of said sleeves and the inner ends of which are oblique so that they are longer on one side than the other, and sewing the inner ends of said sleeves around said armholes with the longer sides of said sleeves on top and the shorter sides on the bottom of said sleeves, whereby said sleeves are caused to extend from said body section at an angle having both downward and forward components of appreciable magnitude.

4. The method of making a shirt which comprises forming a tubular body section, folding said tubular body section flat, forming the front portion of the neck opening of said shirt by cutting off one of the upper corners of both layers of said flattened body section along a concavely curved line, forming the rear portion of said neck opening by cutting the other upper corner of both layers of said flattened body section along a concavely curved line, the cutout thus formed in the latter said corner being approximately the same width as that formed in the first said corner but of substantially lesser length, forming the shoulder portions of said shirt by cutting both layers of said body section from the inner corners of said cutouts obliquely downward to a common point at the approximate center line of said flattened body section, forming the armholes of said shirt by cutting both layers of said flattened body section along a curved line commencing at said common point and terminating at a lower point approximately on said center line and intermediately bowing away from said center line in a direction of the first said cutout, unflattening said body section, folding out the flaps thus formed at the back portion thereof to open said armholes, sewing together the adjacent shoulder portions on the front and back of said body section, forming a pair of tubular sleeves, and sewing the inner ends of said sleeves around said armholes, whereby said sleeves are caused to extend from said body section at an angle having a forward directional component of appreciable magnitude.

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