

July 28, 1959

J. CLYNE

2,896,219

SHORTS TYPE GARMENT CONSTRUCTION

Filed March 19, 1957

3 Sheets-Sheet 1

FIG. 1

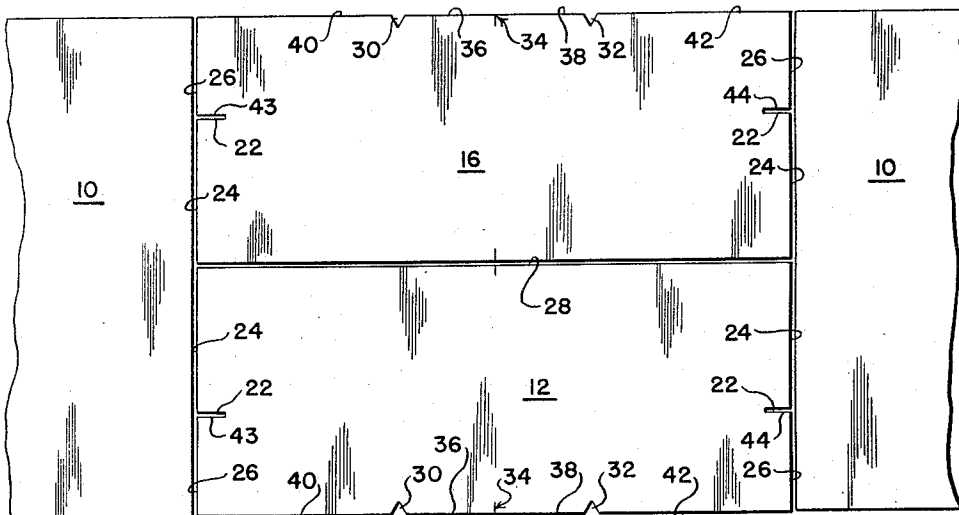
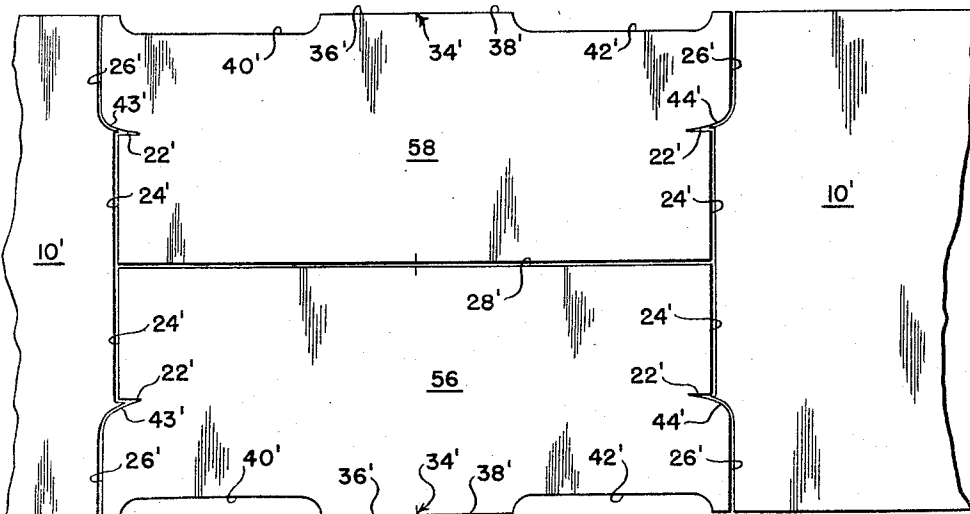


FIG. 2



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FIG. 3

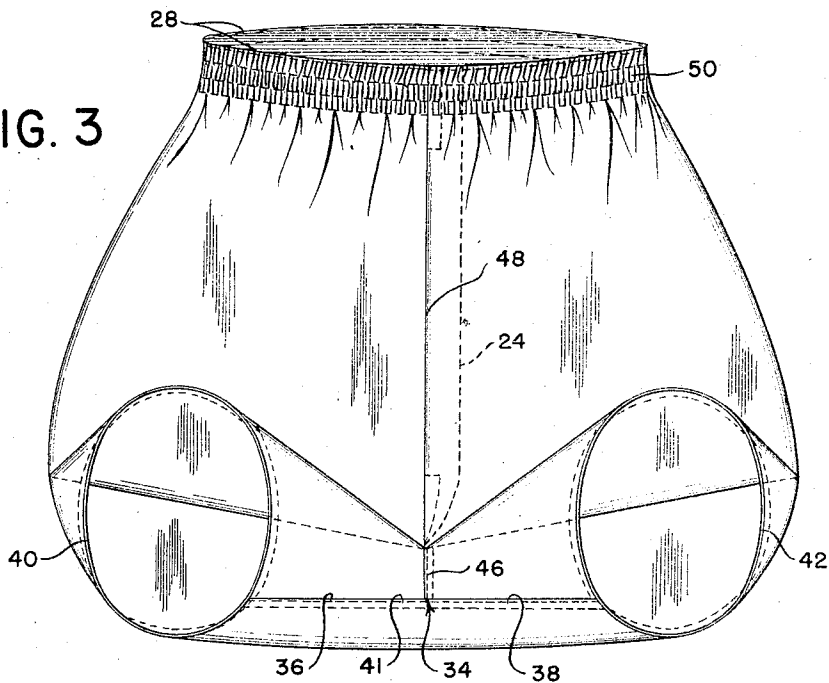
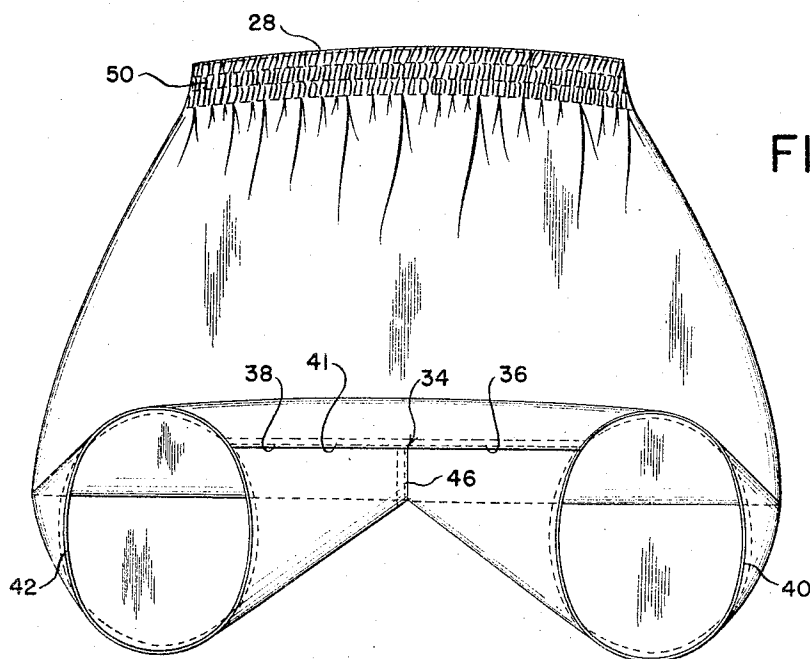


FIG. 4



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FIG. 5

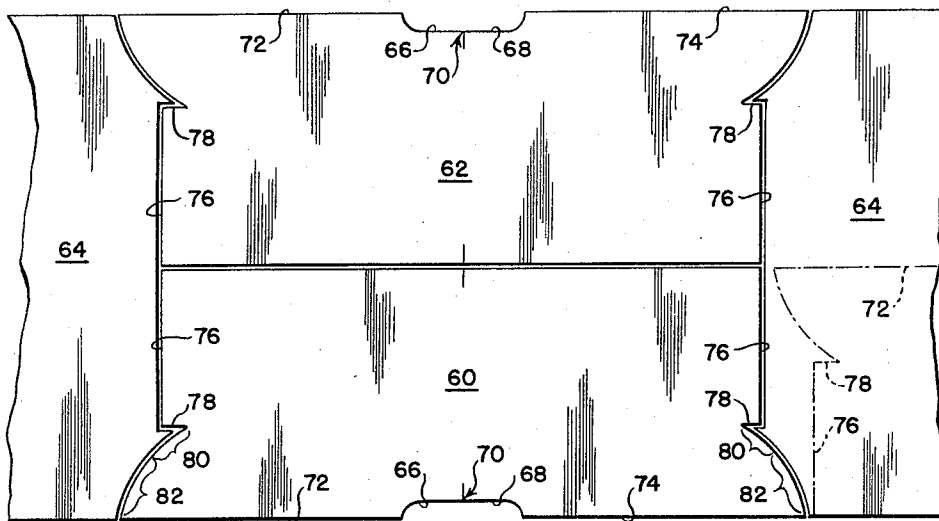
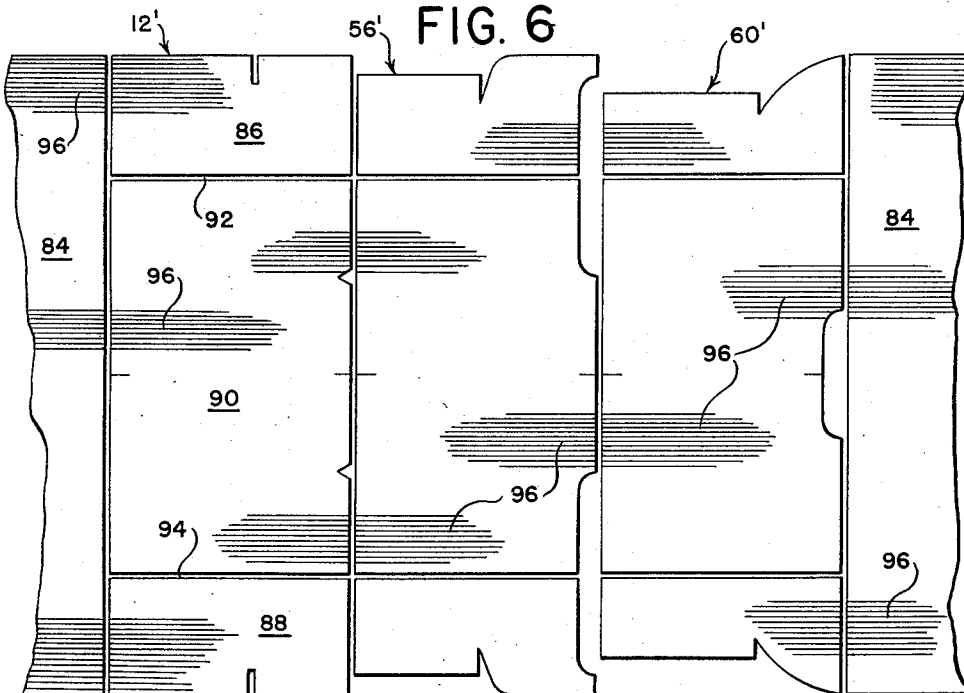


FIG. 6



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SHORTS TYPE GARMENT CONSTRUCTION

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5 Claims. (Cl. 2—224)

My invention relates to improvements in shorts type garment constructions.

Men's and boys' shorts, for example, as now sold, are in most instances, provided with a seam up the center of the back and include other seams which cause discomfort to the wearer. Furthermore, little attention has been paid to the matter of economy in the cutting of the material for shorts and the simplification of their manufacture.

Accordingly, the primary object of the present invention is, in the first place, to provide a pair of shorts which are comfortable for the wearer.

Another object of the invention is to provide a comfortable pair of shorts which are seamless in the back.

A further object of the invention is to provide a pair of shorts which are not only comfortable, but which are made from less material than formerly and which require less labor or a shorter time to make.

According to my invention, the improved shorts construction, in general, comprises a body portion having a seamless back and leg portions integral with the body portion, the shorts being formed essentially from an oblong, substantially rectangular-shaped fabric structure, the long, top and bottom edges of which are parallel, and having a length approximating twice its width. The end edges of this fabric structure, for example, in pattern form are slit inwardly to provide upper and lower end-edge portions, the upper ends of the lower end-edge portions being joined together and to the bottom edge of the fabric structure at its center, and the lower end-edge portions themselves being joined to the bottom edge of the fabric structure on the respective sides of its center to form the legs of the shorts.

In this construction the outer portions of the bottom edge of the structure are of sufficient length to encircle the respective legs of the wearer.

In a preferred construction the oblong rectangular-shaped structure comprises a single piece of fabric which is quickly and easily cut from a bolt of fabric material having a width approximating twice that of the oblong structure. Accordingly, the particular pattern employed in accordance with the invention is such that the material for two pairs of shorts may be readily cut from the bolt of fabric material by laying the patterns side-by-side lengthwise along the laid-out fabric material. Therefore, where the shorts pattern is exactly rectangular, there is no cut away or waste of fabric material in cutting out the shorts. Another advantage is the fact that a considerable saving of time and labor is realized by the use of the particular pattern and method of construction according to the invention.

The improved shorts construction includes other features and advantages described more in detail hereinafter in connection with the accompanying drawings forming a part of this application.

In the drawings:

Fig. 1 is a plan view showing two of the preferred

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shorts structures in pattern form as cut from the full width of a bolt of fabric material;

Fig. 2 is a view similar to that of Fig. 1 showing a structure having a somewhat different pattern form;

Fig. 3 is a front elevational view of a pair of shorts constructed in accordance with the invention;

Fig. 4 is a back elevational view of the shorts shown in Fig. 3 folded so as to show the attachment seams;

Fig. 5 is a view similar to those of Figs. 1 and 2 showing a further modified pattern form structure; and

Fig. 6 is a plan view showing the pattern structures of Figs. 1, 2 and 5, but in three piece units arranged transversely of and as cut from a bolt of longitudinally-striped fabric material.

Referring to Fig. 1 of the drawings, a section 10 of a bolt of fabric material is cut to provide two oblong rectangular-shaped pieces of fabric 12 and 16 according to a preferred form of pattern, and they are illustrated with the piece 16 above the piece 12 and arranged parallel thereto.

Fig. 1 shows the cut-out pieces of fabric 12 and 16 arranged in parallel relationship lengthwise of the fabric section 10, and together occupying the full width of the fabric. The piece 12 is shown right side up, while the piece 16 is shown upside down, so that the selvage edges of the fabric 10 form the bottom edges of the pairs of shorts made respectively from the pattern pieces 12 and 16. In Fig. 1 and also in Figs. 2, 5 and 6, the slightly-spaced double lines indicate cuts made in the fabric in cutting out the respective pattern forms. Since the structure of the pieces 12 and 16 is the same, the detailed description will be confined to the piece 12.

The rectangular-shaped piece of fabric 12, as shown in Fig. 1, is cut to provide a cut or slit 22 at each end to leave upper and lower end portions 24 and 26. The upper edge 28 of the piece 12 comprises the top edge of the shorts which extends around the waist of the wearer and which is usually attached to a waistband of elastic material. The bottom or selvage edge of the piece 12 is notched at 30 and 32 at equal distances respectively from the center 34, thereby providing central edge portions 36 and 38, each of a length corresponding to the end-edge portions 26, leaving edge portions 40 and 42 of sufficient length to extend around the legs of the wearer.

The oblong rectangular-shaped piece of fabric or fabric structure 12 cut from the bolt of fabric 10 in the pattern form shown in Fig. 1 is assembled to provide a pair of shorts having the features shown in Figs. 3 and 4. In sewing up the piece 12 to make the pair of shorts, the upper ends of the edge portions 26 are brought together in overlapping seam relationship at the center point 34, and the end portions 26 of the respective ends of the piece 12 are laid along the edge portions 36 and 38, respectively, and sewed thereto to provide a single long inseam 41. The notches 30 and 32 are provided primarily to give the necessary material to form the seam, it being noted that the lower corners of the piece 12 will be respectively located at the notches 30 and 32, respectively, so that the bottom edge portions 40 and 42 will form loops at the lower ends of the legs of the shorts for encircling the legs of the wearer.

Another step in the sewing operation is to sew together the edges 43 and 44 of the cuts or slits 22 to provide a short crotch seam 46, as shown in Figs. 3 and 4, the outer ends of these edges being already secured together in the seam 41. The seam 46 may be made before the seam 41. The upper end portions 24 are folded-in in the usual manner to provide a fly 48 for the shorts, which is constructed and arranged in accordance with known practice. The top edge 28 of the piece 12 is stitched to an elastic belt or band 50 in accordance with known practice, and the upper corners of the piece 12 are, of course,

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folded-in in making the fly and sewed together along with the elastic belt band 50. The selvage edge portions 40 and 42 may be left as is or hemmed.

In carrying out the invention, the bolt of fabric is completely used without any waste of material by cutting-out the shorts according to the pattern form of the piece 12, since two pieces of the same size and pattern are cut from the same length of fabric on its full width.

Fig. 2 of the drawings is similar to that of Fig. 1 in showing a section 10' of a bolt of fabric material with two pattern-shaped pieces 56 and 58, both of the same generally rectangular-shaped construction having slits and end portions corresponding to those of the pieces 12 and 16 and designated by the same reference characters to which a prime has been added. However, the pattern form of the pieces 56 and 58 differs from that of the pieces 12 and 16 in that the end portions 26' extend beyond the line of the end portions 24' respectively and the lower corners of the pieces, and the end portions 36' and 38' extend below the bottom edge portions 40' and 42', primarily to shift the seam 41 forward and provide additional edge material for seams. The instructions given above for forming a pair of shorts from the piece 12 apply in the same manner to the pieces 56 and 58, and the resulting shorts will have the same seams and essentially the appearance of the shorts shown in Figs. 3 and 4.

Two pairs of shorts, for example, made according to the pattern form shown in Fig. 2 are cut from a single width of material 10', but some excess material is cut away to offset the edge portions 40' and 42' with respect to the edge portions 36' and 38'. This cut-away material is not shown in Fig. 2. In cutting a series of pattern-shaped pieces from a bolt of fabric, alternate pieces 56 lengthwise of the fabric may be inverted with respect to each other, so that the end portion 26' of one piece is cut simultaneously with an end portion 24' of the next adjacent piece. The same procedure may be applied in cutting a series of pieces 58. Furthermore, some saving in material may be made by placing the patterns for the pieces 56 and 58 bottom-to-bottom instead of top-to-top as in Fig. 2, and offsetting one pattern lengthwise with respect to the other, so that the projecting portions of one pattern, such as the edge portions 36' and 38' are opposite one of the edge portions 40' or 42'.

Fig. 5 of the drawings shows two pattern-shaped pieces of fabric 60 and 62, of like oblong generally rectangular shape cut from a section 64 of a bolt of fabric material. The pattern form of these pieces is the same as that for the piece 12 and they are arranged top-to-top parallel to each other along the section of fabric 64, from which they have been cut in the manner shown. The pieces 60 and 62 have a bottom construction somewhat opposite to that of the pieces 56 and 58 in Fig. 2, since the crotch at the back of the piece 60, for example, is provided with edge portions 66 and 68 on the opposite sides of the center 70 indented with respect to the bottom edge portions 72 and 74 of the legs of the shorts. The end portions of the piece 60 have a construction similar to the piece 56, but the lower outwardly and downwardly curved portions provide relatively longer edge portions 72 and 74. As shown, each end of the piece 60 is provided with an upper end portion 76 extending to a substantially horizontal cut or slit 78 and a lower end portion having joining curved edge portions 80 and 82. The curved edge portions 82 are respectively sewed to the indented bottom edge portions 66 and 68 to provide the leg inseams or seam corresponding to the seam 41 in Figs. 3 and 4. The curved edge portions 80, that is, the portions of the continuous curves not sewed to the indented bottom section, are sewed together at the center 70 to form a seam corresponding to the seam 46 extending to the fly portion in the manner described above.

The cut-out for the edge portions 66 and 68 provides a flat indentation in the crotch portion of the piece 60,

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so that when the shorts are sewed up, the seam corresponding to the seam 41 in Figs. 3 and 4 will curve somewhat farther toward the back of the shorts or be located more to the back of the shorts than the seam 41 in Figs. 3 and 4. The greater proportional length of the edge portions 72 and 74 in combination with the curved portions 82 provides ample crotch room in the shorts and provides the material extending backwardly in the crotch to the edge portions 66 and 68.

In cutting the pattern-shaped pieces 60 and 62, in Fig. 5, a further saving of material is achieved when cutting a series of these pieces from a bolt of fabric by inverting alternate pieces 60 lengthwise of the fabric so that the edge portions 82 of adjacent pieces 60 are arranged opposite the respective end portions 76, as indicated by the relationship of the pattern shape shown in dot-and-dash lines at the lower left in Fig. 5.

Fig. 6 of the drawings shows slightly modified pattern constructions from those of Figs. 1, 2 and 5, respectively, in connection with the use of a bolt of striped fabric material. In this view pattern constructions 12', 56' and 60' shown in series as cut from a section 84 of a bolt of striped fabric material are respectively the same as the pattern forms shown in Figs. 1, 2 and 5, except that each of these pattern constructions comprises three elements, as shown. For example, the pattern construction 12' includes the end elements 86 and 88 and a central back element 90.

The three different pattern constructions shown in Fig. 6 are formed by making the same cuts as those made in connection with the one-piece pattern forms of Figs. 1, 2 and 5, respectively, and then cutting the end pieces to leave the back center piece. For example, the construction 12' is cut longitudinally of the striped fabric on the double lines 92 and 94. The end pieces 86 and 88 are then sewed to the central back piece 90 along the cut edges 92 and 94, respectively, to provide side seams on the resulting shorts. It will be understood that each of the pattern constructions 12', 56' and 60', when sewed up in the manner described above with respect to the corresponding pattern pieces of Figs. 1, 2 and 5, will provide pairs of shorts having essentially the same appearance, except that they will be of striped material with the stripes extending vertically of the shorts.

The pattern constructions shown in Fig. 6 and their arrangement transversely of the bolt of fabric material 84 is particularly adapted for the manufacture of shorts from longitudinally striped material, the striping being indicated at 96. By placing the patterns for the constructions 12', 56' and 60' transversely of the fabric material, the stripes of the material will run from top to bottom of the shorts, and, therefore, provide a very attractive appearance. Furthermore, the arrangement of the patterns in this way, that is, transversely of the fabric, results in a considerable saving in material, since the width of the material is selected to take the full length of the shorts pattern when laid transversely of the bolt of fabric material, as shown in Fig. 6.

The three different pattern constructions are shown in Fig. 6 merely for purposes of illustration, it being understood that under normal cutting conditions, only one of the pattern forms, and probably for a particular size, would be used at one time, for example, successively along the fabric material. It will also be understood that the one-piece patterns for the pieces 12, 56 and 60 may be placed transversely of the laid-out bolt of fabric material and the resulting shorts made from striped material. However, the pattern constructions shown in Fig. 6, provided with side seams, are advantageously used with striped material because the side seams will be parallel to the stripes.

While 3-piece constructions are advantageous, the shorts are preferably made from a single piece of material in accordance with the pattern forms shown in

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Figs. 1, 2 and 5. This leaves the back and sides of the shorts free of seams and provides a seat with a substantial amount of excess material which extends below the seam 41, as shown in Fig. 3, and which is shown folded back in Fig. 4. The shorts, therefore, are cut in pattern form from the bolt of fabric material without any actual waste of material and completed in pattern form by merely providing a few slits or notches as described above. The oblong, substantially rectangular shape of pattern structure gives a generous fullness of material at the waist.

Shorts made according to the pattern-shaped pieces and constructions described above and illustrated in the drawings, result in a considerable saving of material and labor when compared with the corresponding costs of labor and materials now involved in the manufacture of men's shorts. It has been estimated, for example, that in making men's shorts of size 32, they may be cut in the shape of the piece 12 in Fig. 1, for example, from fabric material 27 inches wide, and sewed up to give a saving in material and labor of from 25 to 35 cents per dozen pairs of shorts. When it is realized that one of the leading manufacturers of men's shorts in this country makes and sells about 140,000 dozen pairs of shorts a week, the possible saving is very great. For some manufacturers the saving would be in excess of the profits now realized.

It is apparent from the foregoing description that the shorts type garments constructed according to the invention may be made of fabric suitable for various purposes and uses for either sex and as outer or under garments.

I claim:

1. A shorts type garment comprising body and leg portions formed from a single generally oblong and symmetrically shaped piece of fabric material which when laid out flat in pattern form has a length approximating twice its width, the longer edges of said piece of material being parallel and constituting respectively the top and bottom of the garment, each end of said piece of fabric material being cut inwardly in a direction generally longitudinally of said piece about two-thirds the distance from the top to the bottom to provide upper and lower end portions separated by said cut, each lower end portion extending outwardly relative to the adjacent upper end portion and having an edge continuing from said cut outwardly and inclined to and meeting the bottom edge of the piece of fabric material, said lower end portions of the piece of fabric material being folded-in toward each other and their inner edge portions being joined together and their outer edge portions being joined to the bottom edge of the piece of fabric material respectively along parts of said bottom edge on the respective sides of its center with a single seam to form the legs of the garment, the seam formed by joining said inner edge portions of the lower end portions together extending forwardly from the seam formed by joining the outer edge portions to said lower end portions to the bottom edge of the piece of fabric to form a crotch seam, whereby a shorts type garment is formed from the single piece of fabric material having a minimum number of seams.

2. A shorts type garment as claimed in claim 1, in which the single piece of fabric material when laid out flat in pattern form has an indentation along its central bottom edge portion having an edge parallel to the bottom edge of said piece of fabric material and to which the said outer edge portions of said extending lower end portions are joined by said single seam.

3. A shorts type garment as claimed in claim 1, in

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which the single piece of fabric material when laid out flat in pattern form has a projection along its central bottom edge portion having an edge parallel to the bottom edge of said piece of fabric material and to which the said outer edge portions of said extending lower end portions are joined by said single seam.

4. In the manufacture of shorts type garments including a body portion and leg portions integral with the body portion and formed from a piece of fabric material, the steps which comprise cutting a plurality of generally rectangular pieces of fabric side-by-side in parallel from a length of fabric material having a width which is substantially an integer of the length of one side of said piece of fabric being cut, whereby there is substantially no waste material resulting from the cutting of said piece of fabric, said cutting of the pieces being such that when they are laid out flat in pattern form they have a length approximately twice their width and the longer edges are generally parallel to each other, forming cuts having upper and lower edges extending inwardly from the end edges of each piece to provide upper and lower end portions, folding the lower edges defining said cuts of each piece inwardly to each other and securing them together, securing the outer edges of the lower end portions of each piece to the central portion of the bottom edges of the piece on the respective sides of their lengthwise centers to form the legs of the garments so that the seams formed by joining together the lower edges defining the cuts extend forwardly of the garments from the seams formed by securing the outer edges of the lower end portions to the bottom edges of the respective pieces to provide crotch seams.

5. The method of making a shorts type garment from a length of fabric material which comprises cutting the fabric material lengthwise substantially along its longitudinal center, cutting the fabric material transversely from said lengthwise cut along spaced lines in a direction generally normal to said lengthwise cut to form a generally rectangular pattern piece having a top and bottom edge formed by the lengthwise cut and the edge of the fabric material to which the transverse cuts extend, the length of the longitudinal cut being approximately twice the length of the transverse cuts, forming cuts with upper and lower edges extending inwardly from the ends of said pattern piece to provide upper and lower end portions, folding the lower edges defining said cuts inwardly to each other and joining them together, folding the outer edges of the lower end portions inwardly and joining them to the central portion of the bottom edge of the pattern piece on the respective sides of its lengthwise center to form the legs of the garment, the seam formed by joining together the lower edges defining the cuts extending forwardly of the garment from the seam formed by joining the outer edges of the lower end portions to the bottom edge of the pattern piece to provide a crotch seam, whereby a shorts type garment having a minimum number of seams is formed from a single pattern piece consisting of one-half of a length of fabric material and the other half of said length of fabric material may be used for the formation of a like garment with substantially no waste of the fabric material.

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