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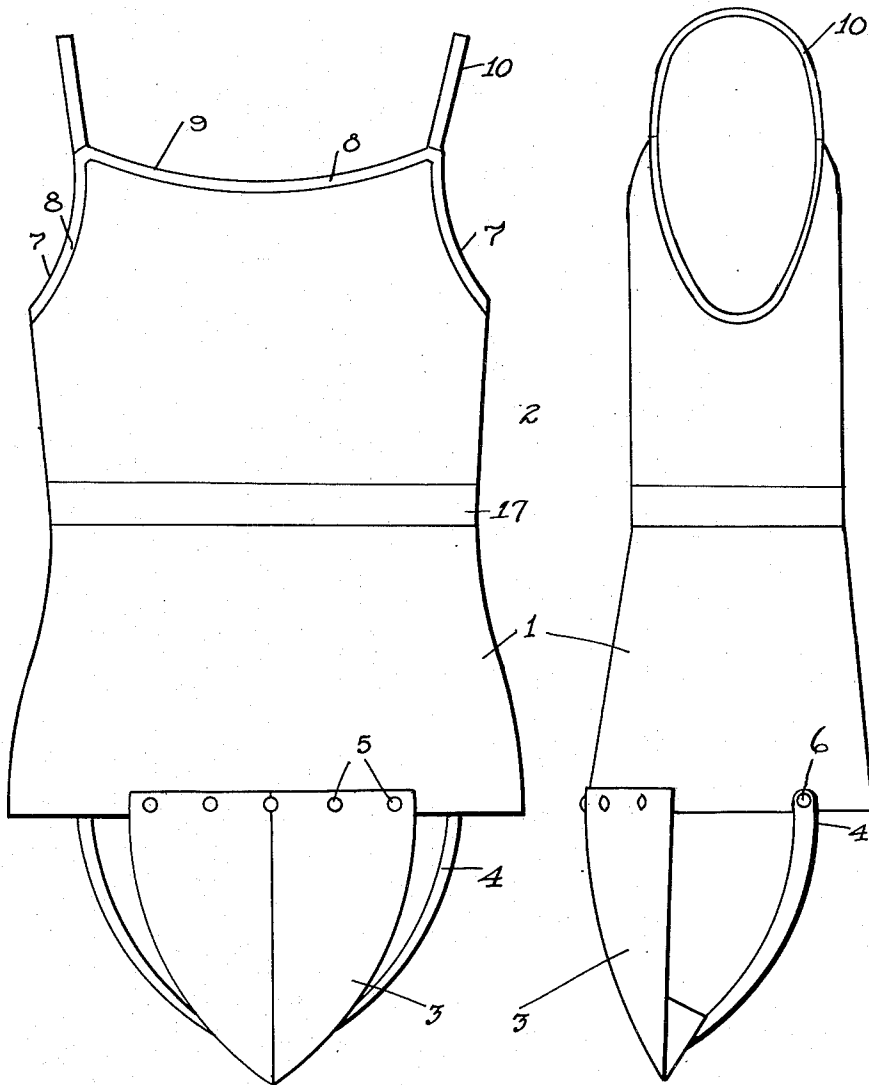
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2,336,222

UNDERGARMENT IN THE FORM OF A GIRDLE AND METHOD OF MAKING THE SAME

Filed June 12, 1940

2 Sheets-Sheet 1



*Fig. 1.*

*Fig. 2.*

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2 Sheets-Sheet 2

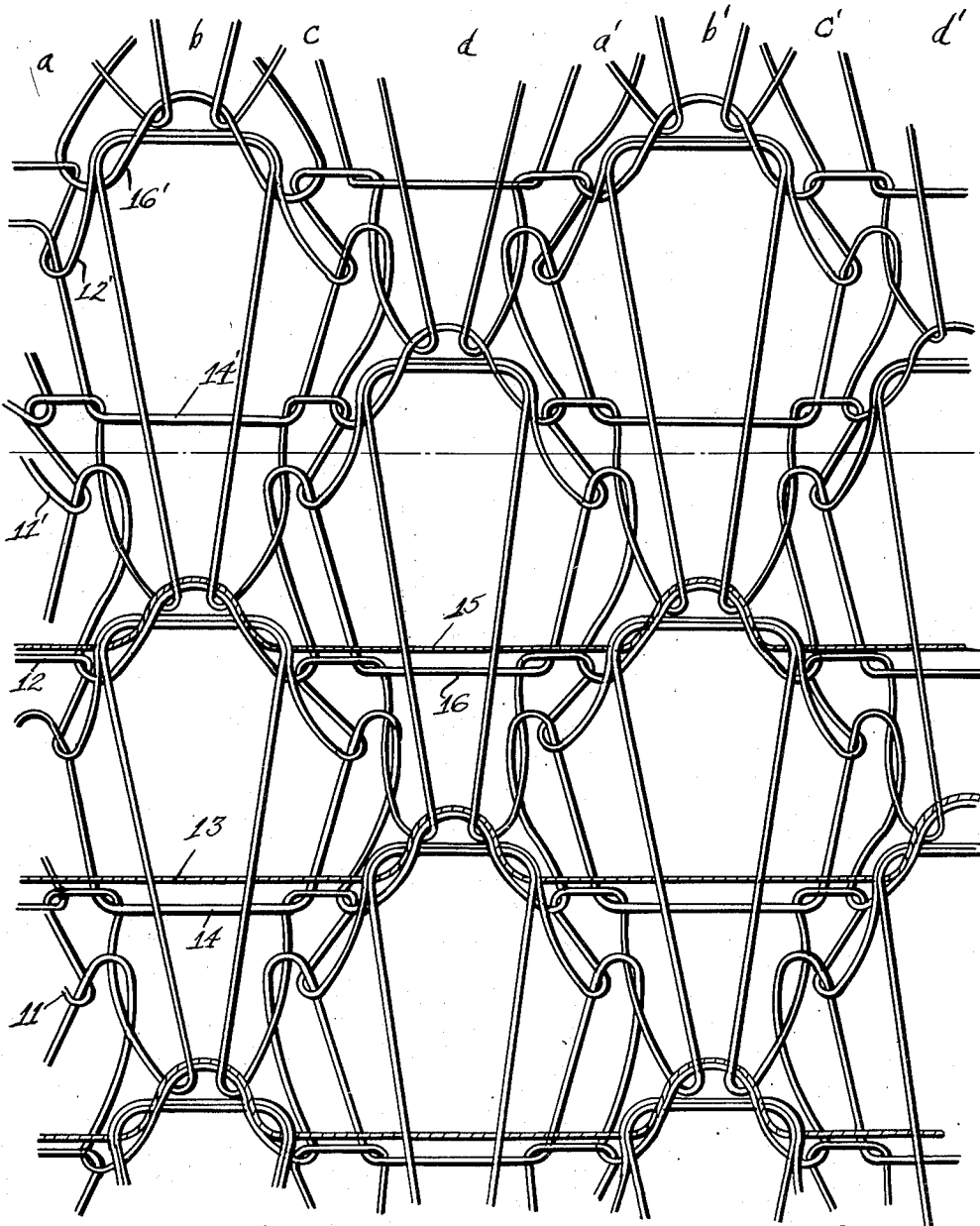


Fig. 3.

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# UNITED STATES PATENT OFFICE

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## UNDERGARMENT IN THE FORM OF A GIR- DLE AND METHOD OF MAKING THE SAME

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6 Claims. (Cl. 66—176)

The present invention relates to a combination girdle and underwear shirt especially adapted for use by both men and women and the invention is particularly applicable to a one-piece garment of this character, the bottom section of which incorporates elastic thread and the top portion of which incorporates conventional in-elastic threads.

Within the last few years, the use of girdles or similar restraining garments especially by men has become increasingly popular, but invariably these garments have the serious objection that the waistband has a tendency to curl or to bind, and thereby make the wearer very uncomfortable. It has also been practically impossible to devise a girdle as such which will remain comfortably in place on the wearer, especially if he is active, as the necessary reinforcing stays placed in the garment to prevent curling interfere with any bending movements. The principal object of the present invention is to provide a one-piece garment having a girdle bottom section and a shirt top section which is free from any seams at the junction of the girdle and shirt, and which will eliminate the objections to the conventional girdle by always holding the top securely in position to prevent the garment from working down.

In the manufacture of combination garments of this character, the problem of knitting both the top and bottom sections as a single piece having elastic threads incorporated in the girdle section, but having the top section entirely free of elastic threads, has been unsolved, since a single machine could not continue to knit a satisfactory and attractive fabric if the elastic thread were eliminated. Moreover, in all garments having elastic threads incorporated by knitting, there is a tendency for the knitting to run, thus damaging the garment, or a tendency for the elastic thread to pull out, with resultant runs and also failure of the elastic thread to perform its function. One of the features of the present invention is a unitary one-piece garment, utilizing the same type of knitting and the same threads in both the top and bottom sections, with the elastic thread knitted into the portion of the garment forming the girdle, but omitted from the remainder. Although the elastic is integrally knitted into the fabric, it is not an essential part of the knitting itself, and the remainder of the garment may be knitted in the same machine without affecting the satisfactory appearance of the finished fabric.

Other and further objects and advantages of the invention will appear from the following de-

scription taken in connection with the accompanying drawings, in which—

Fig. 1 is a front elevation of a garment embodying the invention.

Fig. 2 is a side elevation of the garment of Fig. 1.

Fig. 3 is an enlarged fragmentary diagrammatic view showing the arrangement of the knitting in both the top and bottom parts of the garment.

With reference to the drawings, the garment has a knitted girdle section 1 in which elastic threads are incorporated, and a knitted shirt section 2 integrally united with the girdle section and free of elastic threads, so that this portion of the garment exercises substantially no restraining action on the wearer. The shirt section is stretchable to the extent that any knitted fabric is stretchable to assure a good fit. To the bottom of the girdle section is attached a pouch 3 having straps 4 extending to the rearward side of the garment. Snap fasteners 5 hold the upper edge of the pouch releasably to the lower edge of the girdle portion, and similar snap fasteners 6 provide for the removal of the ends of the straps 4 from the back of the girdle portion.

At the upper portion of the garment the knitted material of the shirt portion is cut away to form armholes 7, and a suitable binding 8 is preferably attached around the armholes as well as around the neck opening 9. Elastic or stretchable shoulder straps 10 provide for holding the upper edges of the garment in position, the elasticity of these strips permitting freedom of movement of the wearer without uncomfortable pulling on the shoulders, and permitting the garment to accommodate varying heights.

One of the principal features of the garment is that the girdle portion 1 and top portion 2 are integrally knitted so that there is no seam of any kind at the junction of these two portions which is normally approximately at the waist line. To accomplish this it has been necessary to produce a knitted fabric in a portion of which elastic threads are knitted, and in the remainder of which the elastic threads may be omitted without in any way leaving an incomplete fabric. Thus, while the elastic threads in the girdle portion are integrally knitted into the fabric, they are not an essential part of the fabric and during the knitting of the garment the elastic thread may be discontinued at any point. This incorporation of the elastic thread in the fabric by knitting the thread is in contrast to the well known insertion of an elastic thread by laying it into

the fabric between successive courses, to the extent that the knitting in of the elastic thread provides for a stretch of the garment in directions both lengthwise and crosswise of the wales. Thus, in the present garment the girdle section in which elastic thread is incorporated is a two-way stretch fabric being stretchable both crosswise and lengthwise of the garment, and this stretchability is obtained by the particular manner of knitting in the elastic thread.

One form of knitting which has been found especially adaptable for making a garment in accordance with the present invention is shown in detail in Fig. 3. With reference to this figure, alternate courses consist of inelastic threads 11 and 12 and the intervening courses in each case of elastic and inelastic threads. The threads 13 and 14 are the elastic and inelastic threads in one course, and the threads 15 and 16 are the elastic and inelastic threads of a subsequent course. In the particular embodiment shown, successive wales are formed alternately on the back and front of the fabric, the fabric shown being made on a circular knitting machine, and thus alternate wales *a*, *c*, *a'* and *c'* are on the back of the fabric and the intervening wales *b*, *d*, *b'* and *d'* are on the face of the fabric.

In the particular arrangement of knitting, the pattern is repeated with each set of four wales and also with each set of four courses, so that a short portion of the fabric only need be described. The dot-dash line in Fig. 3 represents the portion of the garment above which the elastic threads are omitted and below which the elastic threads are integrally incorporated into the fabric. This particular fabric forming the girdle section of the garment and the method of knitting this portion is described in the pending Clark application, Serial No. 261,199 filed March 11, 1939, since issued as Patent No. 2,250,359, dated July 22, 1941; the present invention utilizes this type of knitting or any similar type of knitting which will obtain the results above outlined. For the purposes of this invention, the type of knitting shown is utilized only by way of example and it will be readily understood that other types of knitting accomplishing the same results may be utilized. Considering each of the threads separately as it is knitted into the fabric, the thread 11 is knitted or looped in alternate wales, being in this particular instance knitted in wales *a* and *c*. In wale *d* this thread has a tucked loop forming a part of a tuck stitch. In wale *b* the loop formed is not immediately engaged by the thread of the subsequent course and forms the held loop of a tuck stitch, and as will hereafter appear, the thread 12 has a tucked loop in this wale forming a part of the same tuck stitch.

The following course is made up of an elastic thread 13 and the inelastic thread 14. The elastic thread 13 is looped or knitted in only one of each of four wales, being looped in wale *d* and unknitted in the other three wales in each set of four. The inelastic thread of this same course is knitted in the same wale as is the elastic thread, being knitted in wale *d*, and is also knitted in certain of the other wales, as in wales *a* and *c*. This thread is, however, unknitted in certain of the wales, as in wale *b*, so that it is in effect laid-in in these wales.

The thread 12 of the following course is incorporated in the fabric in the same way as the thread 11, except that the tucked loop is in wale *b* rather than in wale *d* to form a part of the tuck stitch of which the thread 11 also forms a part.

This thread in wale *d* has a held loop forming part of a tuck stitch. This loop passes through and holds the loops in both the elastic and inelastic threads 13 and 14 of the preceding course.

The following course consists of the elastic thread 15 and the inelastic thread 16. The elastic thread 15 is looped in wale *b* which is in a different wale from the loop in the preceding elastic thread 13, and this elastic thread 15 is unknitted in the other three wales *a*, *c* and *d* of the set of four wales. The inelastic thread 16 of this course is knitted in the wale *b* with the elastic thread and is also knitted in wales *a* and *c*, but is unknitted in wale *d*, being laid in in this wale. Thus the loops in the elastic thread 15 and inelastic thread 16 are formed in alternate wales from the loops of the threads 13 and 14.

The pattern now repeats itself and the following course consists of an inelastic thread 11' which is treated in exactly the same way as the thread 11.

In the drawing the elastic or girdle portion of the garment is shown as ending at this point and the course following the inelastic thread 11' comprises the inelastic thread 14', the corresponding elastic thread 13' having been omitted. The thread 14' is looped in wales *a*, *c* and *d* as is the thread 14. By this arrangement the fabric still remains a complete fabric not subject to runs even though the elastic thread has been omitted and without otherwise changing the manner of knitting in any way whatever. Thus the entire garment may be knitted continuously on a single knitting machine which has thereon a provision for severing the elastic thread at the point where it is discontinued and reinserting it in the knitting at the beginning of the next garment.

The particular knitting shown or any similar knitting of the elastic thread effectively ties in the end of this thread so that in use there is no tendency for the elastic thread to pull endwise through the elastic fabric. Even if it should do so to a minor degree, however, the fabric being complete without the elastic thread, will still present the same appearance as above and there will be no objectionable runs occurring. The section in which the elastic thread or threads occurs has a stretch in two directions imparted thereto by the knitting in of the elastic thread, and this thread also adds to the quantity of material in the garment so that the girdle portion in the finished garment has somewhat of a flare, as shown in Fig. 1. The shirt portion however, on the other hand, being entirely of inelastic thread, presents the same appearance and has the same texture as the conventional type of knitted underwear shirt.

By the arrangement of an integral top portion for the girdle, the latter has its upper edge held securely in position and any curling or rolling over is entirely prevented. At the same time, any tendency for the girdle to creep downward is opposed by the short portion and shoulder straps. Likewise, any tendency for the girdle to creep upwardly is opposed by the detachable pouch. Machines adapted for knitting the girdle portion of the garment are also adapted for variations in the particular arrangement of the stitches, and it will be understood that the shirt portion of the garment may be knitted with variations in the inelastic thread stitches to provide a shirt fabric having a satisfactory appearance and shape. It will readily be apparent that the selection of tuck stitches and the omission of stitches in selected courses and wales, well within

the capabilities of the machine, will provide variations in the appearance of the fabric without, however, requiring any interruption in the continuous knitting of the garment.

Where it is found desirable the garment has a central section 17 of varying height, in which some of the elastic threads are retained, although the remainder are omitted. This is shown in the drawings where one half of the elastic threads are omitted over the central section, prior to the omission of all the elastic threads in the shirt section. This arrangement is frequently advantageous in providing a small amount of restriction at the waist, this restriction being considerably less than in the girdle section.

**I claim:**

1. A combination girdle and shirt of knitted material having a girdle section in which elastic threads are incorporated by knitting in spaced wales of selected courses, a top shirt section free from elastic threads and integral with the girdle bottom section, said top shirt section having elastic shoulder straps, and a pouch attached to the lower edge of the girdle section.

2. An undergarment in the form of a continuous knitted fabric comprising a girdle section in which elastic threads are incorporated in the fabric by knitting in spaced wales only of selected courses, and a shirt section knitted integrally with said girdle section and free from any seam connecting the sections, said shirt section being free from elastic threads.

3. An undergarment in the form of a continuous knitted fabric comprising a girdle section in which elastic threads are incorporated in the fabric by knitting in spaced wales only of selected courses, and a shirt section knitted integrally with said girdle section and free from any

seam connecting the sections, said shirt section being free from elastic threads and said shirt section having shoulder straps of elastic material.

4. A combination girdle and shirt in the form of a continuous knitted fabric comprising a girdle section formed of elastic and inelastic threads, in which the elastic threads are incorporated by knitting in the fabric in spaced wales only of selected courses and in which an inelastic thread is knitted in the same wale and course where the elastic thread is knitted, whereby the fabric is complete without the elastic thread, and a shirt section knitted integrally with the girdle section and free from elastic thread.

5. In the manufacture of a combination girdle and shirt having a girdle section and a shirt section integral therewith, the steps which involve knitting both sections of the garment in a continuous operation, and incorporating during the knitting, elastic threads in the girdle section only, said elastic threads being knitted with certain of the inelastic threads making up the garment in spaced wales only of selected courses.

6. In the manufacture of a combination girdle and shirt having a girdle section and a shirt section integral therewith, the steps which involve knitting both sections of the garment in a continuous operation, and incorporating during the knitting, elastic threads in the girdle section only, said elastic threads being knitted with certain of the inelastic threads making up the garment in spaced wales only of selected courses, whereby the elastic threads are not an essential part of the knitted structure, the elastic threads being omitted during the knitting of the shirt section.

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