June 5, 1951 E. D. KATTERMANN 2,555,974

ELASTIC FOUNDATION GARMENT

Filed June 16, 1950

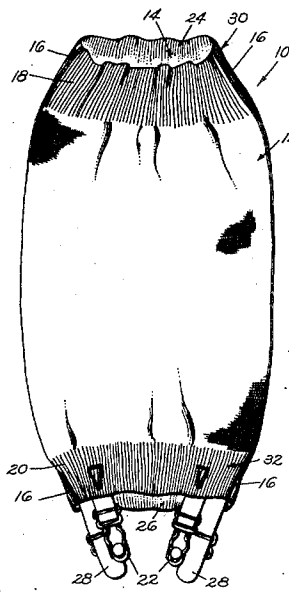


Fig. 1

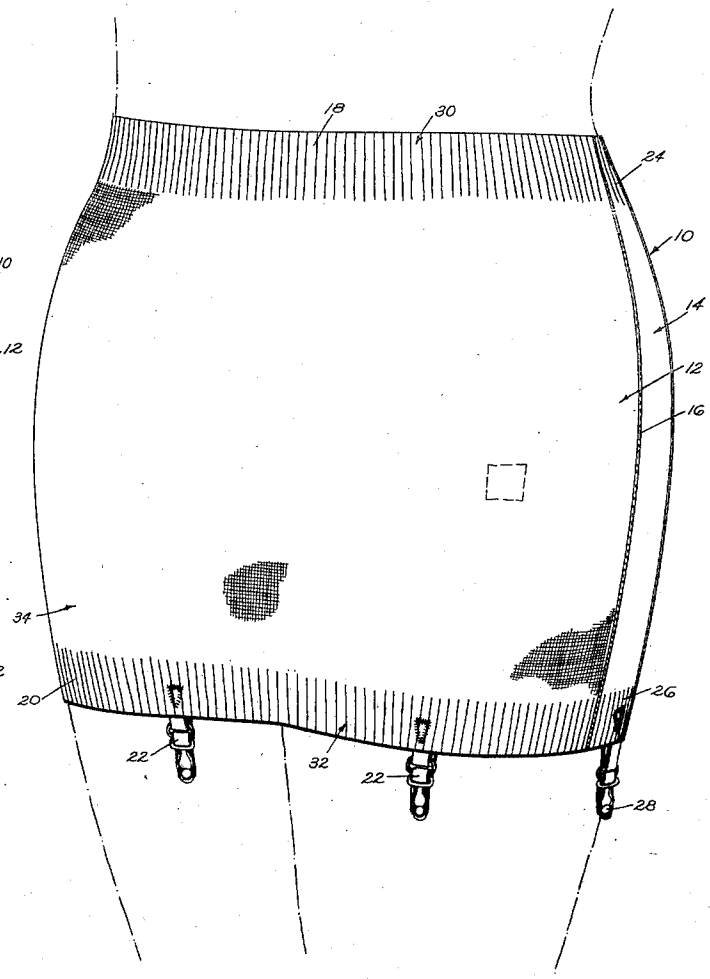
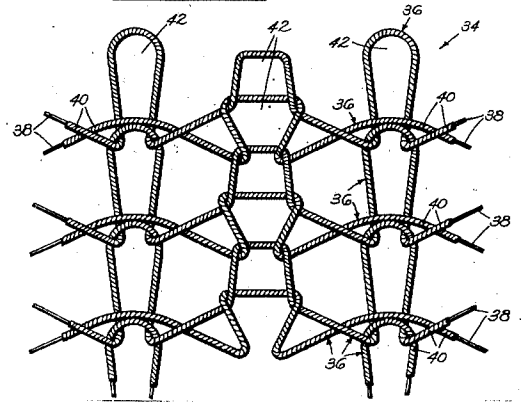


Fig. 2

Fig. 3



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Patented June 5, 1951

2,555,974

UNITED STATES PATENT OFFICE

2,555,974

ELASTIC FOUNDATION GARMENT

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Application June 16, 1950, Serial No. 168,531

4 Claims. (Cl. 66—176)

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This invention relates to elastic girdles and other elastic foundation garments.

In the manufacture of foundation garments, such as girdles, panti-girdles, etc., elastic fabric of suitable figure-constricting power is generally used in order to provide such garments with the desired figure control properties. Heretofore, the elastic fabric comprised both elastic and inelastic threads. The elastic thread, known in the art as "Lastex," is formed of an elastic filament or rubber core which has spirally wound thereon an inelastic textile covering thread. However, due to limitations in the tensile strength of said elastic yarn, it was necessary to combine therewith an inelastic textile thread in order to provide the proper tensile strength in the resulting elastic fabric. Heretofore, for example, in the manufacture of knit elastic fabric, the composite elastic thread is knit under tension together with an inelastic thread forming loops each consisting of elastic thread and inelastic thread. Upon release of the tension, the elastic thread contracts and the inelastic thread of each loop puckers or gathers and adds bulk to the fabric. Moreover, when the loops are extended, in the stretching of the fabric, the extensibility of the elastic thread portion of each loop is limited to the extended unpuckered condition of the inelastic thread thereof. For this and other reasons, it has not been possible heretofore, to provide a girdle which when off the wearer is of very small size and which, although of said small size, can be stretched sufficiently to fit the wearer and also possess the desired figure-constricting or shaping characteristics.

The primary object of the present invention, therefore, is the provision of an elastic girdle, or other elastic foundation garment, which is very considerably smaller in its relaxed or off-the-body condition than the body on which it is to be worn, but which is capable of extension to provide the required full dimensions both peripherally and lengthwise while retaining its firmness or constriction power for providing figure-control.

Another object is the provision of such a girdle which is light in weight and of minimum bulk both on and off the wearer, and comfortably cool when worn.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description considered in connection with the accompanying illustrative drawings.

In the drawings:

Fig. 1 is a front view of a girdle, in flat condition, embodying the present invention;

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Fig. 2 is a front perspective view illustrating the girdle of Fig. 1 on the wearer; and

Fig. 3 is a detailed enlargement of the broken-line portion of Fig. 2, illustrating, on a magnified scale, the open-mesh condition of the fabric when the girdle is on the wearer.

Briefly described, foundation garments made according to my invention are unusually small off the wearer, especially in their circumferential dimensions, in comparison with garments as heretofore made, having regard to the same wearer-size and the same figure-constricting power. For example, a size 28 girdle of the present invention has an off-the-wearer circumferential dimension of only about 12 inches, and yet is stretchable to fit the wearer comfortably and with proper body-constricting power. A concomitant characteristic of the girdle of this invention is that while the fabric is of close mesh in the relaxed condition thereof, i. e., off the wearer, said fabric has a distinctive open mesh condition when the garment is on the wearer.

Referring now to the drawings in detail, the present invention is illustrated and described herein in connection with a girdle **10**, although it will be understood that it is not limited thereto and that it may be used with other types of foundation garments, such as, for example and not by way of limitation, corsets, corselets, panti-girdles, etc.

The girdle **10** is of the "two-way stretch" type being resiliently stretchable both circumferentially and longitudinally of the wearer and, as here shown, comprises a front part or panel **12** and a rear part or panel **14** secured together at their lateral edges in any suitable way, as by the stitching **16**. Front panel **12** is provided, at the upper end thereof, with a waist band portion **18**, and, at the lower end thereof, with a garter-belt portion or cuff **20** which is provided with the depending front garter tabs **22**. Rear panel **14** is provided, at the upper end thereof, with a waist band portion or cuff **24**, and, at the lower end thereof, with a garter-belt portion or cuff **26** which is provided with the depending rear garters **28**. Said portions **18** and **24** together comprise the waist band **30** of the girdle and said portions **20** and **26** together comprise the garter-belt **32** of the girdle. As usual parts **30** and **32** have an easier stretch than the main body-encircling part of the girdle. The panels **12** and **14** are formed of the knit fabric **34** which may be of any type customarily used in foundation garments. In the present embodiment, fabric **34** is preferably a rib-knit fabric and, although each panel is preferably formed entirely of elastic knit fabric, as

shown, it will be understood that it is within the scope of the invention that only predetermined portions of the garment be formed of elastic fabric and other portions thereof be formed of other types of fabric.

Pursuant to the present invention, the fabric **34** is knitted only of elastic yarn **36** and does not contain any inelastic yarn except the covering thread on the rubber filaments of the elastic yarn, and said yarn **36** comprises an elastic filament or rubber core **38** which has spirally wound thereon a covering **40** of nylon thread. The diameter of rubber core **38** is the same as that ordinarily used in foundation garments and depends upon the degree of constriction or stretchability that is desired by the wearer. The threads which are used in the nylon covering **40** are of the same deniers as those of other textile covering threads used in "Lastex" yarn used in foundation garments. The nylon covering **40** increases the tensile strength of the elastic yarn **36** over that of elastic yarn heretofore used and I have found that this increased tensile strength is sufficient to eliminate the need for the inelastic yarn heretofore used in forming the elastic yarn. Due to the former use of the inelastic yarn in foundation garment elastic fabrics, in order to provide the proper tensile strength for said garments, a really small off-the-body garment was not possible. However, by eliminating the inelastic yarn from the elastic fabric **34**, the stretchability of the latter is not limited by the presence of any inelastic yarns, and the bulk of the latter, when off the body, is not increased by the puckering of the inelastic yarn, as heretofore. In addition, the elimination of inelastic yarn from fabric **34** decreases the weight of the girdle, and the nylon covering **40** provides the additional advantages of a fast drying fabric and a more durable fabric.

More specifically, but without narrow limitation, the presently preferred elastic yarn **36**, formed of a natural rubber core **38** and a nylon covering **40**, has a stretch of substantially 290%. In other words, a one inch length of yarn **36** will stretch to substantially 3.9 inches without breaking and without losing its elasticity. This degree of stretchability may be varied, as desired, within certain limits between 275% and 325%. Due to the stretchability of the nylon elastic yarn, the girdle **10** can be made to be of a very small size when off the wearer. For example, assuming that the girdle illustrated in Fig. 1 is of a medium size, being intended for a wearer having a waist size of 28 inches, when off the body, it will be about 12 inches in circumference at its maximum circumferential dimension, and will be about 12 inches long for said waist size. In the foundation garments or girdles heretofore made, having both elastic and non-elastic yarns, the width or circumferential dimension thereof, off the body, was about twice that of a garment, pursuant to the present invention, for the same body size.

Referring to Fig. 3, it will be noted that the loops **42** of the knit fabric are formed only by the elastic thread **36**. Consequently the extensibility of the loops are limited only by the stretchability of the elastic thread **36** and not by the presence of a companion inelastic thread, as in the prior art. Moreover, it will be apparent that, when said loops contract in the untensioned or off-the-body condition of the girdle, the loops will collapse without causing the puckering or gathering thereof resulting from the presence of the inelastic yarn of the prior art. In said collapsed condition, as illustrated in Fig. 1, said loops form a substantially non-porous tightly-knit fabric. It will also be understood that due to the great extensibility of loops **42**, formed only of elastic yarn, and due to the elimination of the added thickness of an additional inelastic yarn, the resultant mesh of fabric **34**, in the extended condition thereof, defines large open-work portions between the yarns **36** thereby providing a cooler garment than was possible with the use of inelastic yarns in the elastic fabric heretofore used. It may be noted that in knitting the elastic fabric of the present invention, the elastic yarn or thread **36** is fed to the needles of the knitting machine with only such tension as is necessary to the knitting operation. It will be understood that while panels **12** and **14** are shown formed of separate pieces, they may be formed in one integral piece, and further it will be understood that the girdle may be produced on a circular knitting machine, if desired, so that it is devoid of longitudinal seams. Also, instead of using nylon for the covering of the elastic thread, any yarn which is the substantial equivalent of nylon in tensile strength may be used. Accordingly, as used in the claims, the term nylon is to be understood as including not only nylon specifically but also the equivalents of nylon.

While I have shown and described the preferred embodiment of my invention, it will be understood that various changes may be made in the present invention without departing from the underlying idea or principles of the invention within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A foundation garment having a body encircling part comprising elastic fabric knit entirely from elastic yarn formed of an elastic rubber core and a covering thread of nylon spirally wound thereon, said elastic yarn having a stretch of between about 275% and about 325%, the circumferential size of said body encircling part, in the relaxed off-the-wearer condition thereof, being not greater than one half of the circumferential measurement of the corresponding part of the wearer of a corresponding conventional size.

2. A foundation garment having a body encircling part comprising elastic rib-knit fabric knit entirely from elastic yarn formed of an elastic rubber core and a covering thread of nylon spirally wound thereon, said elastic yarn having a stretch of between about 275% and about 325%, the circumferential size of said body encircling part, in the relaxed off-the-wearer condition thereof, being not greater than one half of the circumferential measurement of the corresponding part of the wearer of a corresponding conventional size.

3. A foundation garment having a body encircling part comprising elastic fabric knit entirely from elastic yarn formed of an elastic rubber core and a covering thread of nylon spirally wound thereon, said elastic yarn having a stretch of about 290%, the circumferential size of said body encircling part, in the relaxed off-the-wearer condition thereof, being not greater than one half of the circumferential measurement of the corresponding part of the wearer of a corresponding conventional size.

4. A foundation garment having a body encircling part comprising elastic rib-knit fabric knit entirely from elastic yarn formed of an elastic rubber core and a covering thread of

nylon spirally wound thereon, said elastic yarn having a stretch of about 290%, the circumferential size of said body encircling part, in the relaxed off-the-wearer condition thereof, being not greater than one half of the circumferential measurement of the corresponding part of the wearer of a corresponding conventional size.

EMIL D. KATTERMANN.

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