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J. F. YOUNG ETAL

3,374,793

NON-ROLL FOUNDATION GARMENT

Original Filed Nov. 13, 1962

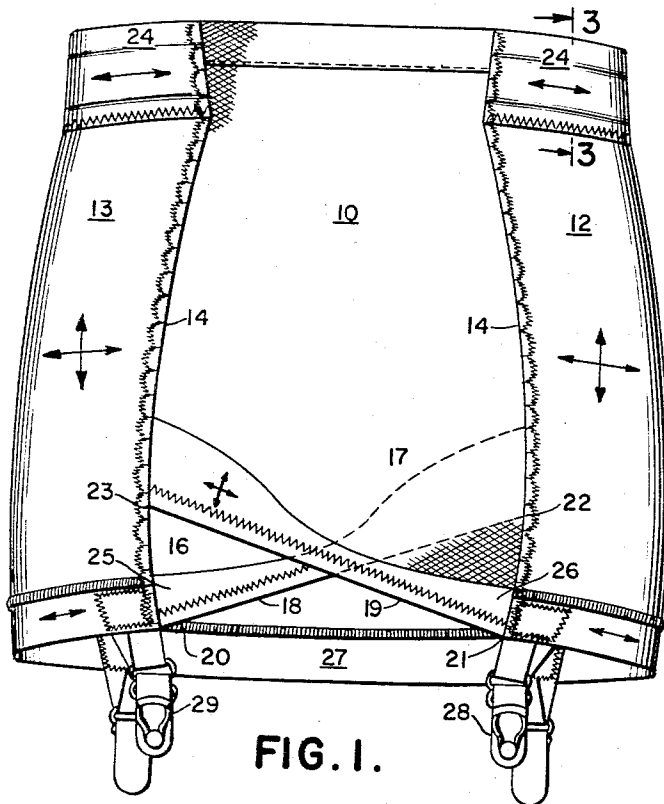


FIG. 1.

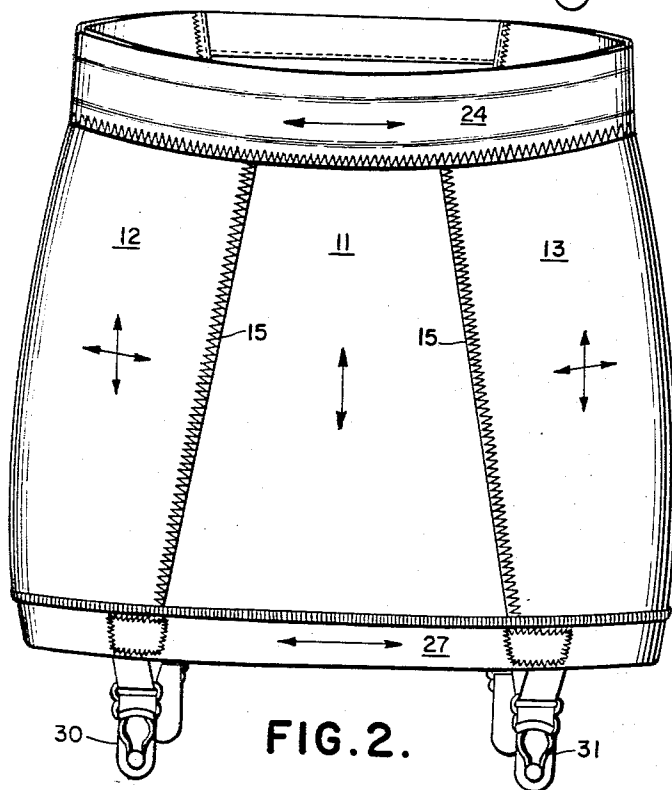


FIG. 2.

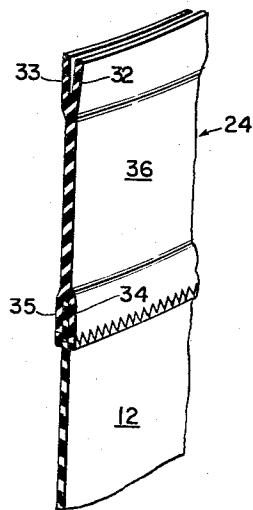


FIG. 3.

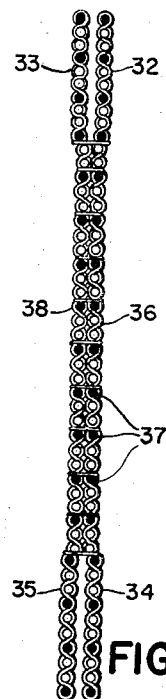


FIG. 4.

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NON-ROLL FOUNDATION GARMENT

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Continuation of application Ser. No. 236,926, Nov. 13, 1962. This application Feb. 18, 1966, Ser. No. 528,505
6 Claims. (Cl. 128—533)

This application is a continuation of application Ser. No. 236,926, filed Nov. 13, 1962, now abandoned.

This invention is an improved foundation garment which has no bones or stays in the upper edge but is nevertheless highly resistant to curling at the waist line.

Girdles which have collars of about two inches or more in width are prone to unsightly curling of the collar either in an outward direction known as rolling or in an inward direction known as buckling. Both are uncomfortable to the wearer. To overcome this fault it has been the practice to use stiffening means such as bones or stays in the collar, but these cause localized pressures and tend to work through the fabric and jab the flesh of the wearer. This undesirable quality of working through the fabric is hastened by machine washing, and the advent of Spandex fabrics for girdles, widely advertised as being machine washable, has only emphasized the problem.

We have unexpectedly found that we can eliminate bones and stays and yet substantially prevent rolling of the collar of a girdle. According to our invention a foundation garment of the girdle type is provided with a circumferentially elastic woven collar whose vertically disposed threads have a fineness in the range of 200 to 700 denier, or equivalent fineness, and whose upper edge is bifurcated or divided into two separate lips, each of which may be integrally interwoven with the body of the collar.

On living models who generally experience curling of their girdles, we have observed that curling is much less evident with our construction. In those isolated instances where rolling did occur, we have further observed that only the outer top lip rolled while the inner top lip continued to hug the body. A most surprising and unexpected feature was that the outer lip generally came back into position automatically so that the rolling lasted for only a very short time. This characteristic of automatic recovery from rolling is a bonus feature that could not have been predicted. We theorize that the outward pressure of the flesh at the collar region is transmitted by the inner lip down through its base line which acts somewhat as a fulcrum and causes the outer lip to move inwardly toward the body. Regardless of theory, however, it is a fact that rolling is greatly reduced with the girdle collar of our invention and whatever slight rolling that might occur is automatically corrected.

Advantageously, we have further found that the provision of a second pair of lips at the bottom edge of the collar substantially eliminates buckling. The bottom pair of lips may be also integrally interwoven with the body of the collar, and the vertically disposed threads have the same range of fineness as mentioned above.

Girdles fitted with our collar are remarkably resistant to both rolling and buckling. It is to be noted that when the top of the girdle proper is sewn between the two bottom lips of the collar, there is a graduated thickness which is greatest at the bottom. Three or more thicknesses of material are present where the two bottom lips enfold the top edge of the girdle proper, two thicknesses of material are present in the body of the collar and separate single thicknesses are present at the top. It may be that the graduated thickness and the corresponding stiffness or heaviness influence the bending and stretching charac-

teristics of the collar, but it is a fact that both rolling and buckling are substantially eliminated.

Proceeding now to a more detailed description of the invention reference will be had to the accompanying drawings which are to be understood as being illustrative and not limitative of the invention.

FIGURE 1 is a front elevational view of our improved garment.

FIGURE 2 is a rear elevational view of the garment shown in FIG. 1.

FIGURE 3 is a cross-sectional view of the garment taken along the line 3—3 of FIG. 1.

FIGURE 4 is an enlarged cross-sectional view of the collar of our girdle.

In these drawings we have shown a preferred form of girdle comprising a plurality of panels adapted to encircle the lower torso, including a front panel 10 and a rear panel 11 secured to side panels 12 and 13. These panels are made of fabric which are joined together along their vertical edges as shown at 14 and 15. Front panel 10 comprises two substantially overlapping panels 16 and 17 which have lower edges 18 and 19 of elastic bands 25 and 26 respectively, disposed in criss-cross relationship by means of the upwardly extending disposition of each of the edges from their points of attachment 20 and 21 to their points of attachment 22 and 23 respectively, on the opposing side panels 12 and 13. The lower edges 18 and 19 are disposed obliquely and cross generally at the vertical median line of the panels 16 and 17. These panels are also attached to the waist or girdle collar 24; as shown, they may constitute a part of the waist line as an inset. The bottom edge of the side panels 12 and 13 and of the back panel 11 are provided with an elastic band 27. Garter strap holders 28, 29, 30 and 31 are provided as shown at spaced points along the bottom edge of the garment.

The side panels 12 and 13 and elastic bands 25 and 26 are of two-way stretch material as indicated by the stretch arrows, while back panel 11 and elastic band 27 are of one-way stretch material.

The girdle collar 24 is provided at the top with a pair of lips 32 and 33 which are separate and free from each other; as shown in FIG. 4, however, they are each integrally interwoven with the central body of the collar. Lower lips 34 and 35 are similarly provided. While FIG. 4 shows one embodiment, another which works well is that wherein the lips 33 and 34 are part of a first layer of fabric 38 while lips 32 and 35 are part of the second layer of fabric 36. This construction in effect provides a cross-over of the two layers of fabric 36 and 38 just above the bottom pair of lips. The collar is made of horizontally extending rubber yarn or thread such as those shown at 37 so that it will have a high degree of longitudinal or horizontal elasticity. It may be made by procedures well known in the weaving art, such as in a double shuttle narrow wear loom. The two shuttles lay in the filling threads while the harnesses form suitable sheds for producing the two layers. At the same time the binder warps are manipulated to produce an integral interweaving of the two layers. In the embodiment shown in FIGURES 3 and 4 the lips at the top and bottom are shown to be of equal width. It is to be understood however that one lip either the top or bottom pair, or of both pairs, may be made slightly narrower than its companion.

The phrase "in the range of 200 to 700 denier or equivalent fineness" means threads having a fineness in the range of 200 to 700 denier or equivalent fineness when measured by other numbering systems, as for example the cotton or wool yarn numbering systems. All fibers falling within this range of fineness may be used, including natural fibers such as cotton and wool, etc., and synthetic fibers such as rayon, nylon and Dacron, etc.

It is essential that the vertically extending threads of the collar have a fineness of at least 200 denier. Threads having a denier below this value, as 150 denier, do not result in a non-curling collar. A denier range of 400 to 600 produces collars which are very resistant to curling, while deniers above 700 yield a fabric which is too bulky and hard to manipulate.

As previously indicated, collars in the neighborhood of two inches or more in width are especially prone to curling. We have found that in collars having an overall width of about 2" the lips should be from about $\frac{3}{8}$ " to $\frac{5}{8}$ " in width. Good non-curling characteristics are obtained when the lips are $\frac{1}{2}$ " wide. It is an interesting fact of this invention that while the upper lips prevent non-rolling, the bottom lips prevent buckling.

Our invention is by no means limited to the particular girdle shown in the drawings but is equally applicable to all types of girdles, whether regular or panty, or whether made of cloth, a combination of cloth and rubber, or all rubber, e.g., deposited latex girdles.

It is to be understood that the present invention also is not limited to the specific details of embodiments described and illustrated in the drawings, but various changes and adaptations may be made without departing from the spirit and scope of the present invention as herein described and defined. For example the panels may be in elastic as well as elastic throughout the entire garment except for a required minimum of one panel which must be stretchable. In addition, the panels may be part elastic and part in elastic as in well known gore or insert constructions. The body-encircling panels may consist of side, rear and front panels, or the side and rear panels may be merged into one.

We claim:

1. A girdle construction including a woven circumferentially elastic collar joined at its bottom edge to the top edge of the girdle proper, the collar being made of one-way stretch fabric having a high degree of longitudinal elasticity and containing vertically disposed threads having a fineness in the range of 200 to 700 deniers or equivalent fineness, said collar comprising a body portion and a lip portion, said body portion having at least two interwoven fabric layers, the upper edge of the collar being divided into two free separate overlapping lips each being integrally interwoven with the collar body and

being integral extensions of its fabric layers, the body of the collar being wider and stiffer than the lips whereby tensions generated by movement of the body of the wearer are distributed through the collar to cause the lip portion to turn in towards the body of the wearer and thus substantially reduce rolling of the top of the collar.

2. A girdle according to claim 1 wherein the bottom edge of the collar is also divided into two integrally woven lips with the top edge of the girdle proper secured therebetween.

3. A girdle according to claim 1 wherein the overall width of the collar is about two inches.

4. A girdle according to claim 1 wherein the upper and lower lips are so constructed that one upper lip and its opposite bottom lip are part of a first layer of fabric of the collar and the other upper lip and its opposite bottom lip are part of a second layer of fabric of the collar.

5. A girdle including a girthwise stretchable collar attached to and extending from the top edge of the girdle proper, said collar having a body portion that is attached to the top edge of the girdle proper and extends upwardly into a bifurcated overlapped lip portion having free upper edges, said body portion being wider and stiffer than said upper lip portion, whereby a soft top edge is provided by the bifurcated lip portion which cooperates with the stiff body portion to resist turning out and over of the collar.

6. A girdle according to claim 5 wherein the bottom edge of the collar is also divided into two lips with the top edge of the girdle proper secured therebetween.

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