March 7, 1944. J. H. VOGT ET AL 2,343,823

LEG BAND FOR HOLDING DOWN BODY GARMENTS

Filed Aug. 29, 1942

Fig. 1

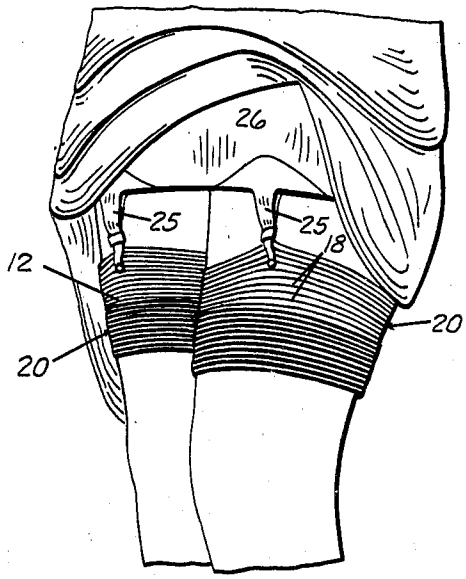


Fig. 2

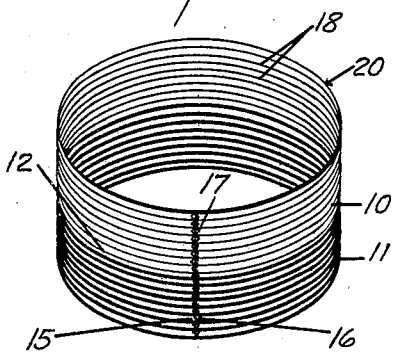


Fig. 3

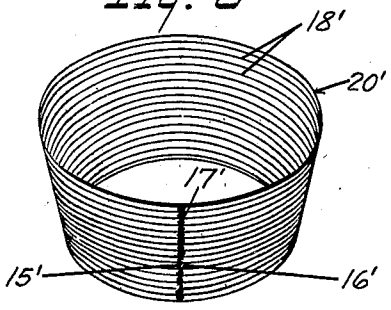


Fig. 4

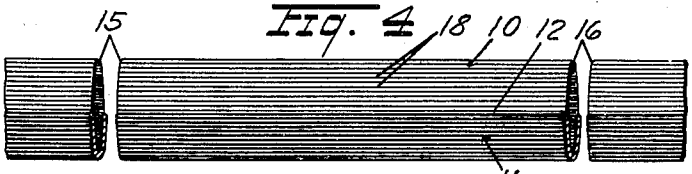


Fig. 5

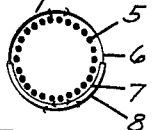
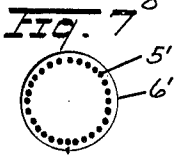


Fig. 6

Fig. 7



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LEG BAND FOR HOLDING DOWN BODY GARMENTS

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5 Claims. (Cl. 2—313)

Our invention relates to new and useful improvements in tubular garter-like bands to be worn on the leg above the knee and used to hold down and keep in place a body garment attached thereto by straps, our objects being to provide a neat, economically made tubular band, of pleasing appearance, and effective elasticity sufficient for its garment holding down needs, which may be worn without discomfort or binding and marking of the leg, and which does not require and may be made entirely without the use of rubber, now prohibited for ordinary manufacturing uses because of essential war needs.

Girdles and like body garments are now commonly made with depending straps for attachment to a stocking so as to act as a supporting garter for the latter and at the same time hold down the girdle from displacement. Such girdle and stocking attachment is intended for and usable only when long stockings extending above the knee are worn, as longer straps with shorter stockings would be unsightly, uncomfortably flop about the leg, and make them ineffective to hold down the girdle.

With the present popular trend and increasing common use of anklets, short stockings below the knee, and even no stockings at all, an urgent need has developed for some other means for holding down such girdles and other body garments, which is entirely self sufficient, and independent of any stocking attachment.

This urgent need has brought to light some adaptations of old devices, and even new suggestions, none of which are satisfactory, either due to cost or ineffectiveness, and all of which rely on the use of rubber elastic or draw strings to tightly engage the leg, which tight engagement causes uncomfortable binding and interference with normal blood circulation and produce more or less lasting welt marks.

The nature of our improved hold-down tubular band, which does not require the use of rubber, can be simply and economically made, may be worn without discomfort, and effectively acts to hold down the body garment, will be fully described hereinafter in connection with the accompanying drawing, and the novel features thereof pointed out in the appended claims.

Fig. 1 is a fragmentary front elevational view showing a preferred embodiment of our hold-down leg band for body garments in position as worn on the legs of a user.

Fig. 2 is a perspective rear elevational view of the leg band indicated in Fig. 1, but shown on a larger scale.

Fig. 3 is a perspective view similar to Fig. 2, but showing a modified construction of the leg band.

Fig. 4 indicates a length of flattened tubularly knitted fabric showing a blank cut-off therefrom suitable for making the finished band of Fig. 2, the scale being necessarily reduced to disclose its length.

Fig. 5 is a diagrammatic view indicating the needles of a circular knitting machine and the traverse of the carriers feeding the yarns to produce the fabric stri pof Fig. 4.

Figs. 6 and 7 are views similar to Figs. 4 and 5 but showing the modified fabric and its construction employed to make the leg band shown in Fig. 3.

While an important feature of our improvements is to eliminate the use of rubber, we do not wish to bar ourselves from such use when and if it again may be available for general commercial purposes. But rubber is not necessary for our purpose, and we fabricate our band of textile fabric made up of usual strands or yarns, such as silk, rayon, cotton, or the like or any equivalent thereof, and so construct it that the normal limited resilience of the fabric made of such strands or yarns will provide all the elasticity necessary, and more particularly so interengage or interloop such strands or yarns that the pull of the body garment straps attached to our band will tend to reduce the normal diameter of the latter and thus cause it to snugly embrace the leg without binding action.

One preferable and very desirable and effective embodiment of our improvements, indicated particularly in Figs. 1, 2, 4 and 5 of the drawing, is to knit a fabric strip on a usual knitting machine, preferably, for economy and increased production, and the advantage of a double or two-ply fabric, to produce the same by weft knitting on a usual circular knitting machine and in the form of a continuous seamless tube. And for the particular purpose of the preferred construction indicated, the fabric is desirably reenforced throughout half of its diameter by interknitted added yarn, as shown diagrammatically in Fig. 5, in which 5 indicates the needles of a usual circular or seamless knitting machine, 6 one yarn supplied to one half of the circle of needles, and 7 and 8 the two yarns supplied to the other half of the circle of needles to produce a reenforced fabric thereon. The knitting of these yarns may be effected in well known and gener-

ally understood manner needing no special showing or description, as on a split-foot knitting machine, by usual reciprocative half-rotations of the circle of needles to produce an integral seamless fabric as indicated in Fig. 4, in which 10 indicates the half diameter of the fabric knitted of yarn 6, and 11 the other half knitted of yarns 7 and 8, and 12 indicates the integral suture lines joining such half circles of fabric, shown in this Fig. 4 as flattened and severed transversely at 15 and 16 to form a suitable length for producing the leg band shown in Figs. 1 and 2. Such leg band is completed by bending the flat-folded length shown in Fig. 4 to form a circle and then seaming together the cut ends 15 and 16 by any suitable uniting stitches 17 to form the leg band 20 shown in Fig. 2 suitable for use in holding down a girdle as indicated in Fig. 1. The fabric tube need not necessarily be knitted as a seamless tube on a circular knitting machine, but may be knitted on any usual knitting machine, but it is preferably formed into a tube as described, and a cut length of such tube seamed together to form our leg band 20. One essential feature however for any flat fabric or tube employed for this purpose, is that the wales of the knitted loops must extend horizontally around the finished band 20 as indicated by the parallel lines 18 in the drawing. The reason for this is the recognized and well understood nature of such knitted fabric, that elongation lengthwise of the knitted wales is limited while spread transversely to said wales is relatively extensive, due to the fact that the knitted loops when pulled lengthwise of their wales resist any change or readjustments of their loop formations, but when pulled transversely to said wales easily change and readjust and vary their loop lengths thus widening the fabric but shortening its length, with the consequent and obvious result of resiliently reducing the diameter of our leg band formed from such fabric without the use or need of rubber elastic.

The leg band 20, indicated in Fig. 2 and made as above described, consists of a circular band of knitted fabric, of a suitable size to be drawn upon and comfortably but snugly engage the leg above the knee, and in which the length on the leg of a wearer is desirably somewhat less than the diameter of the circular band, and the single yarn upper half 10 forms a suitable fabric for attachment of a garter and the heavier reenforced lower half 11 not only provides a stronger fabric for gripping the leg of a wearer when the component knitted loops are pulled transversely to the fabric wales, but its heavier fabric better resists any tendency for this free end to curl up or roll. For ornamentation certain wales may embody tuck stitches or the like, not indicated. When this band 20 is positioned on the leg above the knee, the straps 25 of the body garment 26, are secured thereto in the manner such straps were heretofore attached to the tops of long stockings, as clearly indicated in Fig. 1.

Our improved band 20, made as above described and attached to the body garment 26, will effectively hold down the latter due to the knitted loop wales indicated by the parallel lines 18 extending horizontally around the band, so as to normally resist any loop readjustment and limit diametral enlargement, while permitting materially greater resilience and stretch lengthwise or vertically of the leg by loop readjustment in this direction so as to absorb the pull strains of the straps 25. Moreover the nature of this knitted fabric, as described, is such that any elongation from pull of the straps 25, tends by readjustment of the loop lengths to reduce the normal diameter of the band, so that under pull strains the band 20 will more securely hug the leg and resist any upward displacement from its proper position above the knee; the heavier reenforced half of the band providing a surer grip on the leg and tending to keep this portion flat without upward curl or roll. And the nature of such fabric is naturally soft and pliable and does not irritate the skin, and even under severe strains causing it to more tightly hug the leg, the pressure is soft and pliable due to the nature of the knit fabric and will effectively and comfortably hold its position on the leg at considerably less pressure than that of the tight binding action of any effective rubber elastic band, and is so distributed over a wide area covered by the band as to prevent any uncomfortable sense of binding, or interference with blood circulation, or any welt markings therefrom.

In Figs. 3, 6 and 7 we have indicated a modified construction of the band, indicated as formed of a simple tubular fabric knitted of the same yarn 6' supplied to the entire circularly rotated needles 5' of Fig. 7, to form a tube 10' indicated as flattened in Fig. 6 and severed at 15' and 16' with these ends united by stitches 17' to form the leg band 20' of Fig. 3. The essential feature of this modification is that the lines of severance 15' and 16' are inclined or angular so that when united by stitches 17' the band will have a normal tapered shape as indicated in Fig. 3, with the larger diameter at the top and the smaller diameter at the bottom to more or less conform with the taper of the leg of a wearer. It will be noted the lengthwise knitted wales of the tube 10' run lengthwise, so that they will extend circumferentially in the finished band 20', for the same resilient diametral reduction by loop readjustment so as to grip the leg as in the Fig. 1 and 2 example.

While the particular embodiments of our improvements above described, accomplish our stated purposes in an effective and satisfactory manner, it may be desired later, when rubber is again available, to employ rubber strands in part or the whole of the knit fabric, but such fabric would essentially rely on the loop wales extending circumferentially around the finished tube so as to provide resilient diametral reduction of the band as clearly set forth hereinbefore.

And while all the embodiments above described relate to the tube being formed by seaming together the ends of blanks of suitable length, we may desire, in certain cases, to make our band in the form of a seamless tube and of differently fabricated material, having however the main essentials as hereinbefore set forth, that pull of the body garment straps will be absorbed by vertical resilience of the tube, and that such strain will tend, by readjustment of the component strands of the fabric, to reduce the normal diameter of the tube so as to increase its snug fit on the leg to prevent displacement of the tube from its position on the leg.

It is believed that the nature of our improved hold-down band or tube and the effective manner in which it accomplishes our stated purposes without the use of rubber elastic, will be fully understood. But we do not wish to bar the possible use of rubber, nor to bar other changes or modifications of the above described embodiments which may properly be included in the

scope of our invention as clearly set forth in the following claims.

What we claim is:

1. A leg band for holding down a body garment provided with a depending garter strap, which comprises a fabric band adapted to be worn on the leg above the knee for attachment thereto of said garter strap, said band consisting of a fabric of a weft-knitted strand interknitted with the loop wales thereof extending circumferentially of said band so that elongating pull of said garter strap transversely to said loop wales will readjust the knitted loops so as to reduce said band diameter for tighter fit on the leg.

2. A leg band for holding down a body garment provided with a depending garter strap, which comprises a tubular fabric band adapted to be worn on the leg above the knee for attachment thereto of said garter strap, said tubular band consisting of a blank of weft-knitted fabric having its ends seamed together and its loop wales extending circumferentially of said band so that elongating pull of said garter strap transversely to said loop wales will readjust the knitted loop so as to reduce said band diameter for tighter fit on the leg.

3. A leg band for holding down a body garment provided with a depending garter strap, which comprises a tubular fabric band adapted to be worn on the leg above the knee for attachment thereto of said garter strap, said tubular band consisting of a blank of weft-knitted yarn having its ends seamed together and its yarn loop wales extending circumferentially of said band so that elongating pull of said garter strap transversely to said loop wales will readjust the knitted loop so as to reduce said band diameter for tighter fit on the leg; the top circular portion of said band being of a single yarn for greater longitudinal stretch and said lower circular portion having added yarn for greater leg-gripping strength and curling-up resistance.

4. A leg band for holding down a body garment provided with a depending garter strap, which comprises a tapered fabric band adapted to be worn on the leg above the knee for attachment thereto of said garter strap, said tapered band consisting of a blank of weft-knitted fabric having bias cut ends seamed together and its loop wales extending circumferentially of said band so that elongating pull of said garter strap transversely to said loop wales will readjust the knitted loops so as to reduce said band diameter for tighter fit on the leg.

5. A leg band for holding down a body garment provided with a depending garter strap, which comprises a tapered tubular fabric band adapted to be worn on the leg above the knee for attachment thereto of said garter strap, said tapered tubular band consisting of a blank of flat-folded circularly knitted stocking fabric having bias cut ends seamed together and its loop wales extending circumferentially of said band so that elongating pull of said garter strap transversely to said loop wales will readjust the knitted loop so as to reduce said band diameter for tighter fit on the leg.

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