

Dec. 12, 1939.

H. HARDIE ET AL

2,183,257

GARMENT BAND

Filed Dec. 24, 1935

2 Sheets—Sheet 1

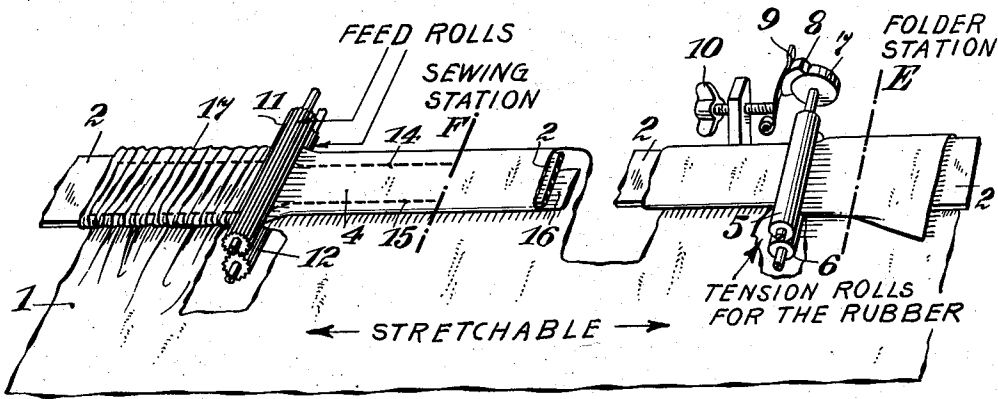


Fig. 1.

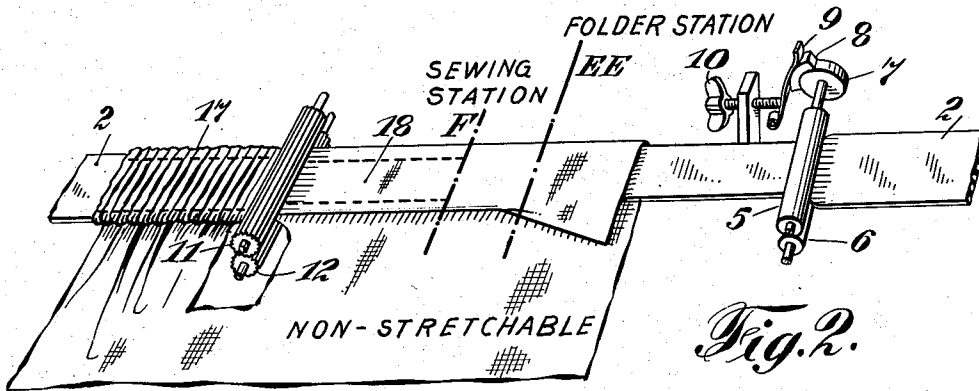


Fig. 2.

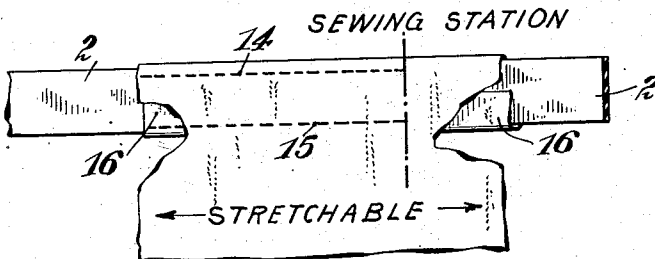


Fig. 3.

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2 Sheets-Sheet 2

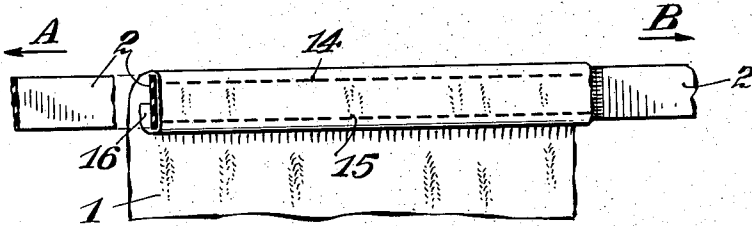


Fig. 4.

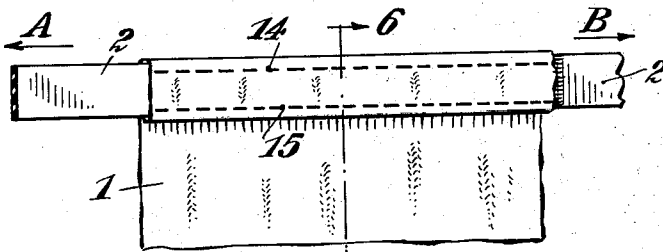


Fig. 5.

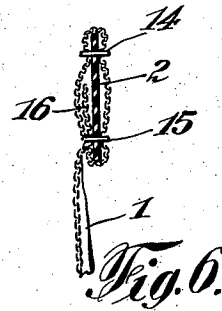


Fig. 6.

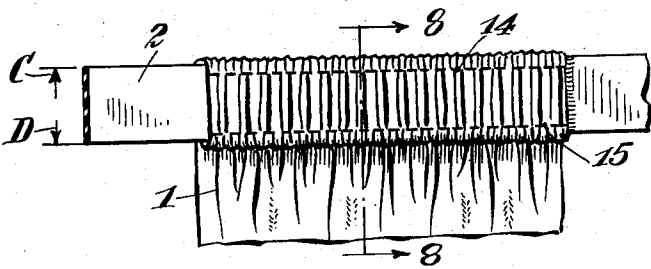


Fig. 7.

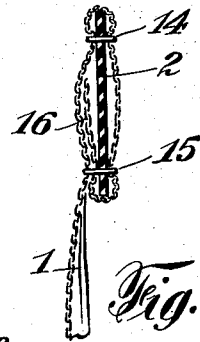


Fig. 8.

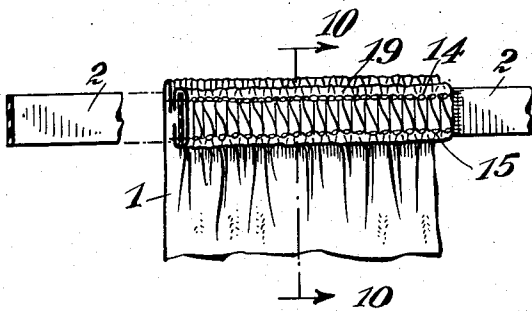


Fig. 9. By

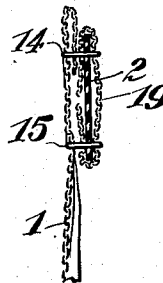


Fig. 10.

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UNITED STATES PATENT OFFICE

2,183,257

GARMENT BAND

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Application December 24, 1935, Serial No. 55,966

1 Claim. (Cl. 2—243)

The present invention relates to a garment band of general utility with reference to articles of personal wear.

It is desirable that a band for a garment shall be neat and attractive in appearance as well as satisfactory from a utilitarian standpoint. Bands which have unsightly edges are not and do not lie flat are by no means as attractive or as satisfactory as a band which has the inherent characteristic of automatically flattening itself. This feature is also of substantial importance when the garment is laundered because a flat band launders flat whereas a band which has folded over edges requires more careful laundering in order to be sure that it is properly ironed when the laundry is finished.

The band according to the preferred form of the present invention comprises the enclosing of a flat rubber strip within a textile sheath and wherein the sheath and rubber strip are sewed together while the rubber strip is under tension. When the sewing is completed, the tension on the rubber strip is released and the rubber strip contracts longitudinally and at the same time expands laterally. The lateral expansion tends to carry the edges of the rubber strip outwardly and since the cloth sheath is folded over in such a size as not to exceed the width of the untensioned rubber strip, the untensioned strip completely fills the sheath and thereby flattens out the sheath into a flat band. Where parallel rows of stitching are used, as is common in the art, the lateral expansion of the rubber strip tends to produce tension crosswise of the band between the rows of stitching and thereby flatten the band on the sides thereof. The above remarks are more especially made with reference to a band made from non-stretchable fabric.

Where a band according to the present invention is made from stretchable fabric, there is a tendency of the sheath to contract laterally when placed under tension. This lateral contraction follows the contraction of the rubber strip, so that where a band is made of stretchable material with the rubber strip completely filling the inside of the sheath, the contraction and expansion of the sheath follow the contraction and expansion of the rubber strip. Woven thread rubber elastic webbing does not diminish in width laterally when the webbing is stretched, and, therefore, when such material is used within a sheath, there is no lateral movement to the edges of the webbing. Consequently, such a webbing does not have any tendency to flatten the sheath when tension is removed. Neither do the edges

of such webbing follow the normal contraction and expansion of a sheath formed of stretchable material.

The rubber strip of the present invention is of sufficient thickness relative to its width to satisfactorily perform the functions intended and in a strip substantially one-half of an inch wide, the thickness of the rubber preferably approximates substantially one sixty-fourth of an inch.

It is recognized that the present invention may be embodied in constructions which may vary somewhat from a disclosure herewith, and, therefore, the disclosure is to be understood as illustrative and not in the limiting sense.

Fig. 1 illustrates diagrammatically the preferred form of device for producing garment bands from stretchable textile material in accordance with the present invention.

Fig. 2 illustrates diagrammatically the manufacture of a band in accordance with the present invention from non-stretchable textile material.

Fig. 3 illustrates diagrammatically a band of stretchable textile material sewed together without longitudinal tension on the rubber strip or textile material.

Fig. 4 shows a band made according to Fig. 3, with the band under tension, and showing the narrowing of the band when stretched.

Fig. 5 illustrates a garment band in accordance with the present invention, which band is formed of stretchable material made according to Fig. 1, and shows the band under tension by opposing forces applied to the ends of the band at the points A and B.

Fig. 6 is a section of a band in Fig. 5 on line 6—6 of Fig. 6.

Fig. 7 illustrates the band shown in Figs. 5 and 6 wherein the tension is released and the rubber strip has contracted longitudinally and expanded laterally to impose lateral forces on the sheath as illustrated by arrows C and D.

Fig. 8 is a section on line 8—8 of Fig. 7.

Fig. 9 illustrates a modification of the band construction, and shows the band in normal condition, with no longitudinal tension on a rubber strip.

Fig. 10 is a cross-section on line 10—10 of Fig. 9.

Referring now to the drawings and more especially to Fig. 1, which illustrates the manufacture of a garment band in accordance with the present invention, the textile material 1, which is preferably of the knit stretchable type, is folded around a flat rubber strip 2 by a folder mechanism located at the folder station E with

the sheath 4 for the rubber strip 2 folded against the lateral edges of the unstretched rubber strip 2. The folded textile stretchable material and the rubber strip pass beneath a pair of tension rollers 5 and 6 which may be controlled by a suitable brake wheel 7 and brake 8 operated by a spring 9 tensioned with a thumb screw 10. A pair of feed rollers 11 and 12, which are driven by sewing machine mechanism, tension the sheath 4 and rubber strip 2 between the tension rollers 5 and 6 and the feed rollers 11 and 12 so that this portion of the materials is stretched under longitudinal tension. In the preferred form, a pair of sewing machine needles adapted to produce a double row of stitches 14 and 15 are operative on this tensioned portion of the material, at the sewing station F, to sew parallel lines of stitches through both sides of the sheath 4 of the rubber strip 2, thereby securely anchoring the rubber strip 2 in place within the sheath 4 and at the same time sewing through the edge 16 of the folded over garment to complete the sheath 4 and form the completed band 17. After the material leaves the feed rolls 11 and 12, it is no longer under tension and it automatically forms a uniformly shirred band.

Where non-stretchable fabric is used for making the sheath, preferably, the fabric is not tensioned as illustrated in Fig. 2, and the folder station EE for the sheath is moved between the tension rolls 5 and 6 and the feed rolls 11 and 12. In this construction, the rubber band 2 only is under tension during the sewing operation and the sheath 18 is formed of slightly less lateral width than the width of this rubber strip 2 when the strip is not under tension.

Fig. 3 illustrates the back of another variation of the band for garments in which the sheath is formed of stretchable material, such as commonly known to the trade as knit Jersey, and wherein the band is sewed with double stitches 14 and 15 with no tension being applied either to the textile material or the rubber strip. In this case, the materials are always flat when sewed together and when in use. The textile material and the rubber strip when stretched both contract laterally the same amount, as illustrated in Fig. 4, when tension is applied in the direction of the arrows A—B.

Fig. 5 illustrates the band shown in Fig. 1. When the band is tensioned in the direction of the arrows A—B showing how the tensioning of the band to its normal elastic limit flattens the same and contracts the band laterally.

Fig. 6 is a sectional view on line 6—6 of Fig. 5

and illustrates the structural form of the sheath shown in Fig. 5. It also illustrates the edge of the strip rubber in contact with the edges of the sheath when the same is under tension.

Fig. 7 illustrates the band shown in Figs. 5 and 6 while not under tension and shows the lateral expansion of the rubber strip, as illustrated by arrows C and D. This view shows the strip to be wider when not under tension, than it is when under tension as illustrated in Figs. 5 and 6.

Fig. 8 is a cross-section on line 8—8 of Fig. 7 and illustrates how the edges of the rubber strip maintain contact with the edges of the sheath at all times.

Fig. 9 illustrates a slightly different form of sheath wherein the outer facing 19 may be of different material or of different color from the body of the garment 1. This sheath is illustrated as not being under longitudinal stress which non-stressed condition is the normal condition for the band when not in use. Fig. 10 is a cross-section on line 10—10 of Fig. 9 and shows the rubber strip expanded laterally to fill the sheath.

The present invention produces a highly satisfactory band for personal wear at a low cost of manufacture. The band is very neat in appearance and is particularly well adapted for articles of women's wear.

Having described our invention, we claim:

In a garment band, the combination of a strip of sheet rubber, a textile sheath surrounding and enclosing said strip of sheet rubber with the textile sheath slightly constricting the strip of sheet rubber laterally so that the edges of the strip of sheet rubber are in contact with the inner edges of the sheath and exert a lateral spreading force against the said inner edges of the sheath to support the same when the band is in normal unstretched condition, said strip of sheet rubber having a thickness equal to substantially one thirty-second of the width of the strip of sheet rubber to form a sufficient body of rubber to sustain said lateral pressure within said sheath to hold the sheath laterally extended when the band is unstretched, and stitches passing through a portion of said sheath to close said sheath and anchor said strip of sheet rubber within said sheath to prevent displacement of said strip of sheet rubber relatively to said sheath and to hold said strip of sheet rubber substantially flat within said sheath.

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