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(54) **SUPPORT BAND APPARATUS TO REINFORCE SHIRT COLLARS AND HEMS**

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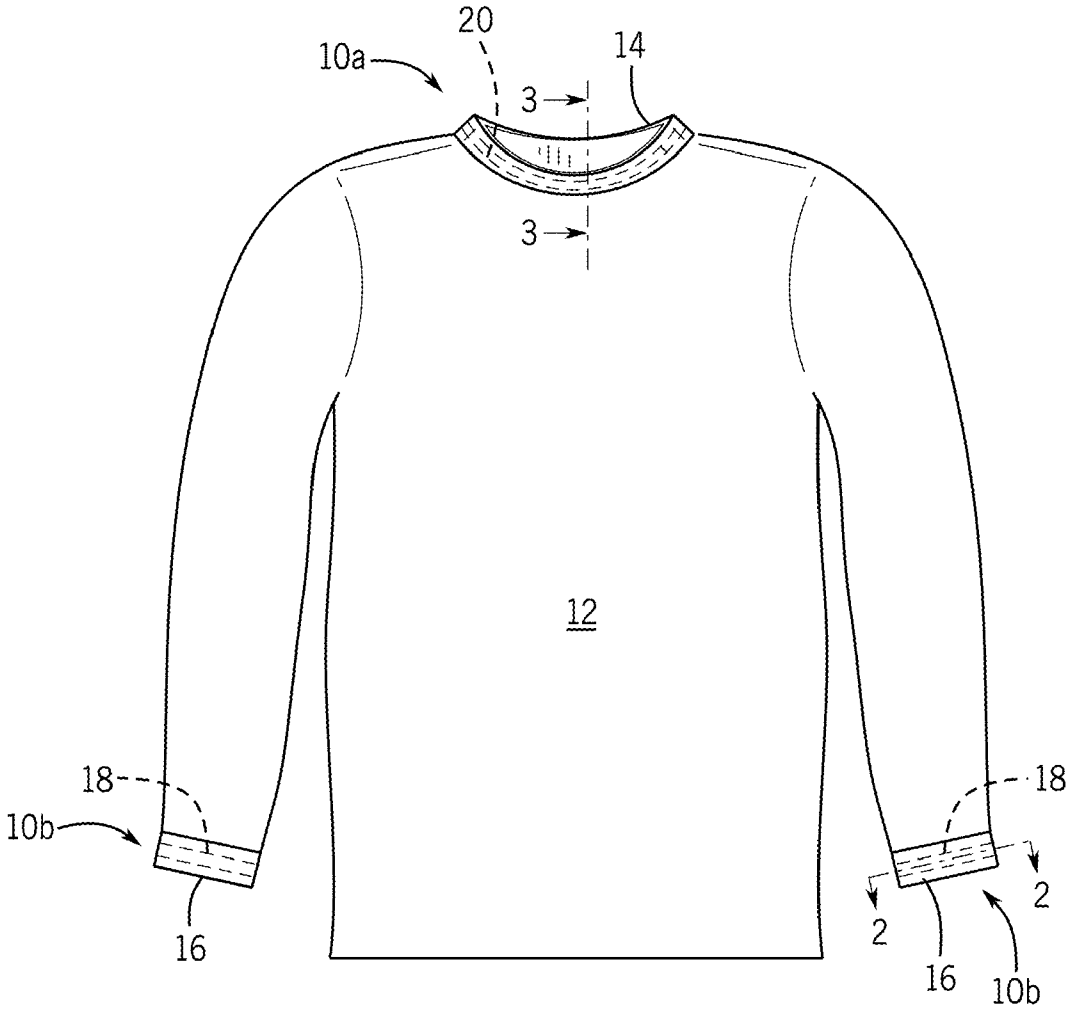
(57) **ABSTRACT**

A support band apparatus for use in reinforcing neck and wrist portions of a shirt to prevent limpness and droopiness from normal use of the shirt includes an elastic band assembly having a first elastic band, a second elastic band and a third elastic band, each elastic band having a first end coupled to a second end to create a loop, the loops of the first, second and third elastic bands positioned such that each elastic band is intertwined with the other elastic bands, the elastic band assembly disposed within an inner pocket of a neck collar or wrist hems of the shirt, and a plurality of fasteners coupled to each elastic band assembly and positioned at predetermined locations throughout the first, second and third elastic bands.



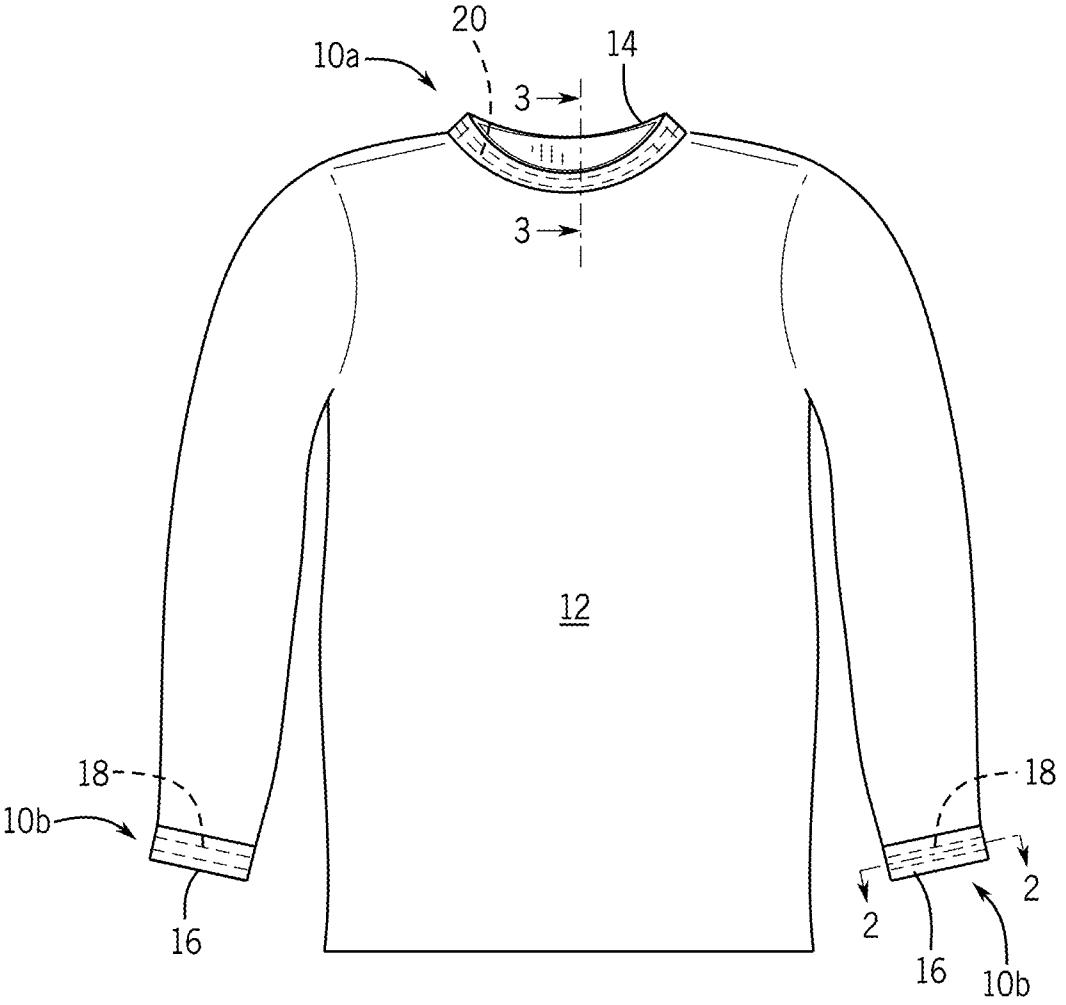


FIG. 1

FIG. 2

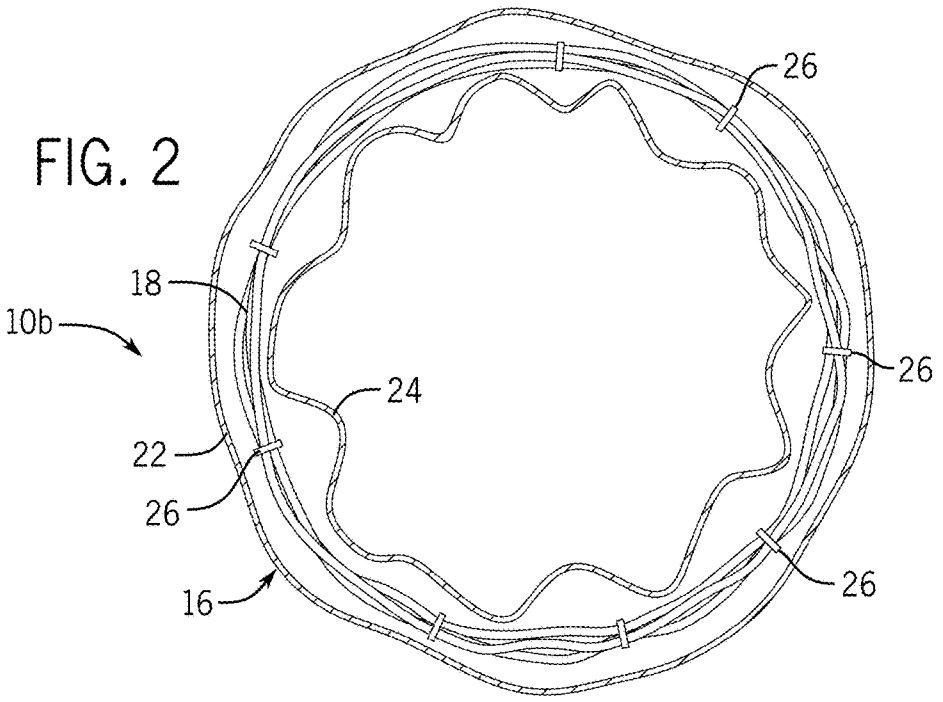
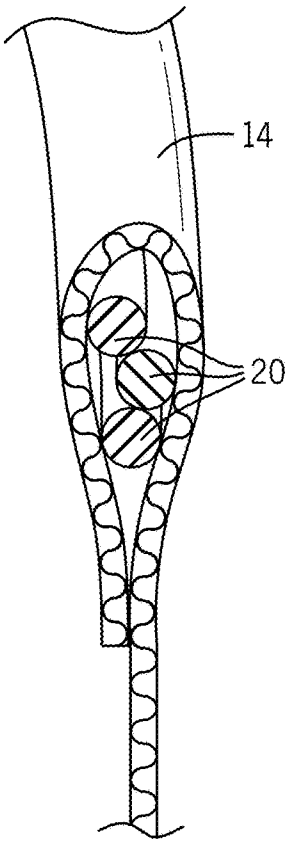


FIG. 3



SUPPORT BAND APPARATUS TO REINFORCE SHIRT COLLARS AND HEMS

BACKGROUND

[0001] The embodiments herein relate generally to garments such as tee-shirts, and particularly to the neck collars and wrist portions of these shirts.

[0002] Tee-shirts are durable, versatile garments with mass appeal that may be worn as outerwear or underwear. Tee-shirt sleeves may be short or long and sized to fit just about anyone in any size, from infants to seniors. The majority of tee-shirts are made of cotton, polyester, or a cotton/polyester blend. Tee-shirts are usually made of knit fabrics, especially jerseys, rib knits, and interlock rib knits, which consist of two ribbed fabrics that are joined together. Jerseys are most frequently used since they are versatile, comfortable, and relatively inexpensive.

[0003] The most common tee-shirts do not open at the front and instead are donned by pulling the shirt over the head and slipping the head and arms through openings provided for the head and arms. Tee-shirts of this variety typically have a neckband to add support to the garment and give the neckline of the T-shirt a more finished look that lays flat against a user's neck. The neckband may be generally round in shape such as a crewneck, or are V-shaped, but other configurations are possible.

[0004] Making T-shirts is a fairly simple and largely automated process. Specially designed machines integrate cutting, assembling, and stitching for the most efficient operations. In many applications for crew neck shirts for instance, the neckband is sewn on to a neckline formed by the partially completed shirt to complete the head opening. The neckband may be formed from a ribbon or band of material and affixed to the neckline. A tubular neckband may be formed by affixing a tubular length of material to the neckline or, more commonly, affixing a length of fabric ribbon that has been folded over, creating an inner chamber in the neckband, then the edges are aligned with and sewn to the neckline. Some neckbands are attached as separate lengths of fabric to separate front and back necklines of the shirt, forming two separate inner chambers.

[0005] While tee-shirts are used herein by way of example, the present invention is applicable to any type of shirt having a collar or neckband, cuff or hem, forming an inner chamber. The cuff or hem of the shirtsleeves of a shirt may also be formed in this manner, or simply by folding over the edge of the shirt sleeve, creating an inner chamber within the hem.

[0006] A problem arises with these type of tubular neckbands and hems. After a few uses and washes, the neckband of the shirt becomes limp and droopy, no longer standing up resiliently against a user's neck. While the rest of the shirt may still look and feel new, with a droopy collar or loose sleeve hems the overall look of the shirt is unappealing, looking old and used.

[0007] As such, there is a need in the industry for an economical, simple and effective way to retain the resilience and elasticity of a tubular neckband or hem in a tee-shirt. In the past, some shirt makers have resolved this problem with a band of elastic tape sewn or otherwise applied to the exterior of a neckband. This has been met with some success, but is fairly bulky and stiff in appearance.

SUMMARY

[0008] A support band apparatus for use in reinforcing neck and wrist portions of a shirt to prevent limpness and droopiness of the neck and wrist portions from normal use of the shirt is provided. The support band apparatus is configured to prevent irregular deformations of the neck and wrist portions and minimize user discomfort. The support band apparatus comprises an elastic band assembly comprising a first elastic band, a second elastic band and a third elastic band, each elastic band comprising a first end coupled to a second end to create a loop, the loops of the first, second and third elastic bands positioned such that each elastic band is intertwined with the other elastic bands, the elastic band assembly configured to be disposed within an inner pocket of a neck collar or wrist hems of the shirt, thereby providing support to the neck or wrist portions of the shirt, and a plurality of fasteners coupled to the elastic band assembly and positioned at predetermined locations throughout the first, second and third elastic bands, each pair of adjacent fasteners separated by a distance sufficiently large to prevent a midpoint region of the first, second and third bands between the adjacent fasteners from unraveling, thereby preventing any irregular deformations of the neck collar or wrist hems and minimizing user discomfort.

BRIEF DESCRIPTION OF THE FIGURES

[0009] The detailed description of some embodiments of the invention will be made below with reference to the accompanying figures, wherein the figures disclose one or more embodiments of the present invention.

[0010] FIG. **1** depicts a front elevation view of certain embodiments of the support band apparatus;

[0011] FIG. **2** depicts a sectional view of certain embodiments of the support band apparatus taken along line **2-2** in FIG. **1**; and

[0012] FIG. **3** depicts a sectional view of certain embodiments of the support band apparatus taken along line **3-3** in FIG. **1**.

DETAILED DESCRIPTION OF CERTAIN EMBODIMENTS

[0013] As depicted in FIG. **1**, the support apparatus is configured for use with shirt **12** to reinforce neck portion **10***a* and wrist portions **10***b*. Shirt **12** preferably is a tee-shirt, however alternative types of garments may be used instead such as sweatshirts, jackets, outerwear, other garments, or the like, which comprise neck collars and/or sleeve hems. Shirt **12** may be made form any fabric material or combination of materials known in the field. Neck portion **10***a* comprises collar **14**, which comprises a hem having a portion of fabric folded over along the edge and sewn thereto to create an inner pocket positioned around the neck region of a user. Similarly, wrist portions **10***b* each comprises a hem with an inner pocket positioned around wrists **16** of shirt **12**.

[0014] The support apparatus comprises wrist elastic band assembly **18** configured to be disposed within the inner pockets of wrists **16** and collar elastic band assembly **20** configured to be disposed within the inner pocket of collar **14**. FIG. **2** depicts wrist elastic band assembly **18** disposed within the inner pocket created by exterior fabric **22** and interior fabric **24**. Wrist elastic band assembly **18** comprises three elastic bands made from a flexible material such as rubber. Each elastic band comprises a first end that is

coupled to a second end by any means such as a fastener or tied knot to create a loop. The loops of the three elastic bands are positioned such that each elastic band is intertwined with the other elastic bands.

[0015] Fasteners **26** are used to secure the three elastic bands together at predetermined locations throughout wrist elastic band assembly **18**. Each fastener **26** preferably comprises a thread that is tied around the elastic bands in wrist elastic band assembly **18**. Fasteners **26** may use any type of materials known in the field such as cotton, nylon, polyester, or the like. However, more durable materials may be used instead such as rubber, or the like. It shall be appreciated that alternative components may be used for fasteners **26** instead such as zip tie-like components, straps, or the like.

[0016] FIG. **3** depicts collar elastic band assembly **20** disposed within the inner pocket of collar **14**. Collar elastic band assembly **20** has the same configuration and components as wrist elastic band assembly **18**, and therefore comprises three intertwined elastic bands secured by fasteners **26**. However, the length of each elastic band in collar elastic band assembly **20** is greater than the length of each elastic band used in wrist elastic band assembly **18** to accommodate the larger size of neck portion **10***a*.

[0017] The dimensions of elastic bands used in wrist elastic band assembly **18** and collar elastic band assembly **20** may vary to accommodate different sized shirts. However, in a preferred embodiment, each elastic band has an approximate thickness of 1/32". It shall be appreciated that any number of elastic bands and/or fasteners **26** may be used in wrist elastic band assembly **18** and collar elastic band assembly **20**. Each pair of adjacent fasteners **26** in the assemblies is separated by a distance sufficiently large to prevent the midpoint region of the intertwined elastic bands between the adjacent fasteners from unraveling. This maintains the elastic bands in elastic band assemblies **18**, **20** in a neat configuration and prevents any irregular deformations in collar **14** and wrists **16** in shirt **12**. Although the distance between adjacent fasteners **26** on the elastic bands may vary, it has been found that a separation of at least 3 inches between adjacent fasteners **26** in collar elastic band assembly **20** is desirable.

[0018] It shall be appreciated that wrist elastic band assemblies **18** and collar elastic band assembly **20** reinforce wrists **16** and collar **14**, and provide the necessary support to prevent these regions from becoming limp or droopy. As a result, neck portions **10***a* and wrist portions **10***b* of shirt **12** retain their original shape and condition even after repeatedly being worn by a user or washed. This enhances the durability and lifetime of the shirt, which ultimately saves the user time and money. It shall be appreciated that wrist elastic band assemblies **18** and collar elastic band assembly **20** do not significantly protrude out of shirt **12**, which minimizes any discomfort felt by the user when wearing shirt **12**.

[0019] It shall be appreciated that the components of the support apparatus described in several embodiments herein may comprise any alternative known materials in the field and be of any color, size and/or dimensions. It shall be appreciated that the components of the support apparatus described herein may be manufactured and assembled using any known techniques in the field.

[0020] Persons of ordinary skill in the art may appreciate that numerous design configurations may be possible to enjoy the functional benefits of the inventive systems. Thus, given the wide variety of configurations and arrangements of embodiments of the present invention the scope of the invention is reflected by the breadth of the claims below rather than narrowed by the embodiments described above.

What is claimed is:

1. A support band apparatus for use in reinforcing neck and wrist portions of a shirt to prevent limpness and droopiness of the neck and wrist portions from normal use of the shirt, the support band apparatus configured to prevent irregular deformations of the neck and wrist portions and minimize user discomfort, the support band apparatus comprising:

an elastic band assembly comprising a first elastic band, a second elastic band and a third elastic band, each elastic band comprising a first end coupled to a second end to create a loop, the loops of the first, second and third elastic bands positioned such that each elastic band is intertwined with the other elastic bands, the elastic band assembly configured to be disposed within an inner pocket of a neck collar or wrist hems of the shirt, thereby providing support to the neck or wrist portions of the shirt; and

a plurality of fasteners coupled to the elastic band assembly and positioned at predetermined locations throughout the first, second and third elastic bands, each pair of adjacent fasteners separated by a distance sufficiently large to prevent a midpoint region of the first, second and third bands between the adjacent fasteners from unraveling, thereby preventing any irregular deformations of the neck collar or wrist hems and minimizing user discomfort.

2. The support band apparatus of claim **1**, wherein the first, second and third elastic bands are made from a rubberized material.

3. The support band apparatus of claim **2**, wherein each elastic band of the first, second and third elastic bands comprises a thickness of approximately 1/32 of an inch.

4. The support band apparatus of claim **2**, wherein each fastener of the plurality of fasteners comprises a thread tied around the first, second and third elastic bands.

5. A shirt with reinforced neck and wrist portions to prevent limpness and droopiness of the neck and wrist portions from normal use of the shirt, the reinforced portions configured to prevent irregular deformations of the neck and wrist portions of the shirt and minimize user discomfort, the shirt comprising:

a flexible garment assembly comprising a front portion, a rear portion, a neck collar, a first sleeve and a second sleeve, each sleeve of the first and second sleeves comprising a wrist portion, each of the neck collar and wrist portions comprising a hem with an inner pocket; and

an elastic band assembly disposed within the inner pocket of the hem of each of the neck collar, the first sleeve and the second sleeve, each elastic band assembly comprising a first elastic band, a second elastic band and a third elastic band, each elastic band comprising a first end coupled to a second end to create a loop, the loops of the first, second and third elastic bands positioned such that each elastic band is intertwined with the other elastic bands, the elastic band assemblies disposed within the hem inner pockets of the neck collar, the first

wrist portion and the second wrist portion configured to provide support to the neck and wrist portions of the shirt; and

a plurality of fasteners coupled to each elastic band assembly and positioned at predetermined locations throughout the first, second and third elastic bands, each pair of adjacent fasteners separated by a distance sufficiently large to prevent a midpoint region of the first, second and third bands between the adjacent fasteners from unraveling, thereby preventing any irregular deformations of the neck collar or wrist portions of the shirt and minimizing user discomfort.

6. The shirt of claim **5**, wherein the first, second and third elastic bands of each elastic band assembly are made from a rubberized material.

7. The shirt of claim **6**, wherein each elastic band of the first, second and third elastic bands in each elastic band assembly comprises a thickness of approximately 1/32 of an inch.

8. The shirt of claim **6**, wherein each fastener of the plurality of fasteners in each elastic band assembly comprises a thread tied around the first, second and third elastic bands.

9. The shirt of claim **8**, wherein the distance separating each pair of adjacent fasteners in the elastic band assembly disposed in the neck collar is at least 3 inches.

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