Feb. 2, 1971 S. GOODMAN 3,559,213

STRETCHABLE CURTAIN FOR APPLICATION TO OUTER GARMENTS AND GARMENTS CONTAINING THE SAME

Filed May 12, 1969

FIG.1

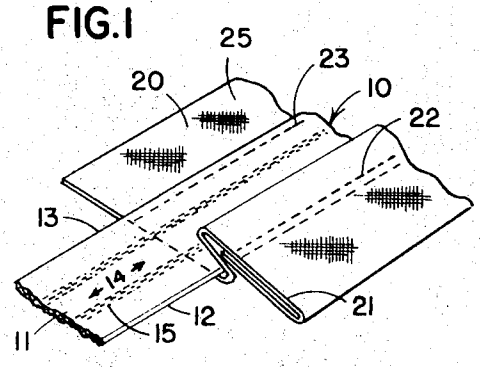
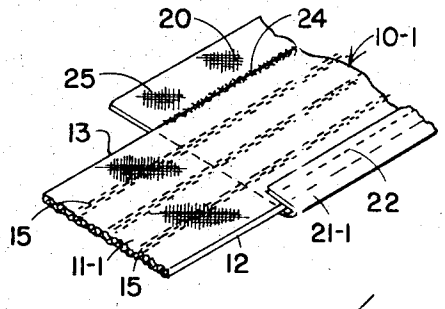


FIG.2



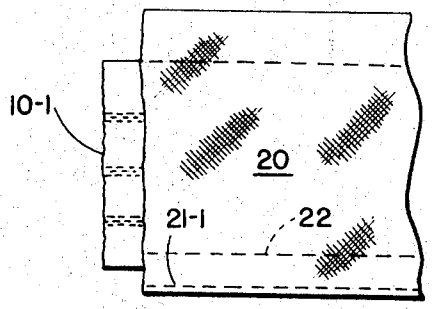


FIG.3

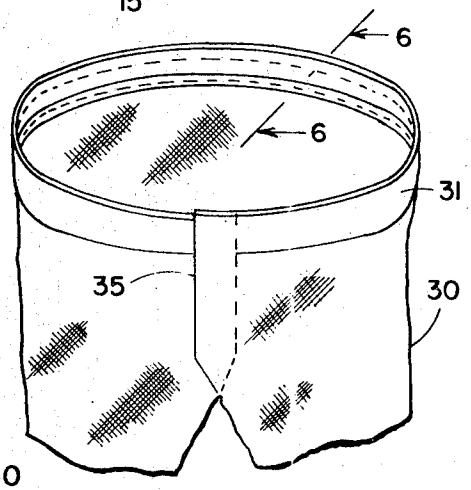


FIG.4

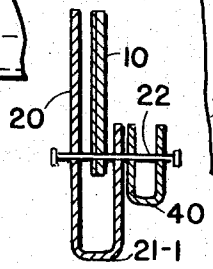


FIG.9

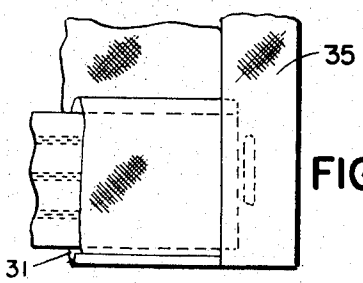


FIG.5

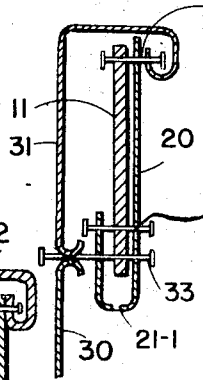


FIG.6

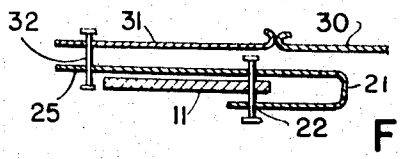


FIG.7

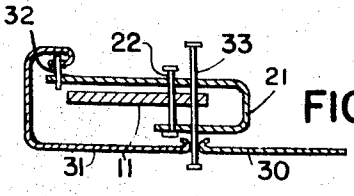


FIG.8

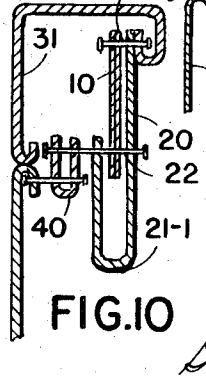


FIG.10

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STRETCHABLE CURTAIN FOR APPLICATION TO OUTER GARMENTS AND GARMENTS CONTAINING THE SAME

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Continuation-in-part of application Ser. No. 767,108, Oct. 14, 1968. This application May 12, 1969, Ser. No. 823,825

Int. Cl. A41d 1/06

U.S. Cl. 2—237 7 Claims

ABSTRACT OF THE DISCLOSURE

The invention discloses an elastic curtain to replace the normal inelastic curtains of outer garments such as trousers, skirts, shorts, culottes, etc., or to be added to other outer garments where a close fitting comfortable waistline is desired. The elastic curtain comprises a heavy core of elastic strip material with finished edges which strip material is stretchable in one direction and a two-way stretch elastic fabric covering the heavy strip material, or that part of the strip material which is nearest the wearer's body.

This application is a continuation-in-part of my application Ser. No. 767,108, filed Oct. 14, 1968 and now abandoned.

This invention relates to elastic curtains adapted to be fixed inside the waistline of outer garments to provide garments with form-fitting, elastic waistlines, and to the outer garments containing such curtains.

Substantially all trousers, walking shorts, skirts, etc., contain a curtain on the inside of the belt-line thereof, whether the particular garment is made to be worn with a belt or not. This curtain comprises a stiff, inelastic core material and a smooth, comfortable, relatively soft fabric surrounding at least that part of the core fabric which is next to the wearer of the garment. The core material is of heavy fabric similar to the fabric used in linings and provides the necessary stiffness to prevent the garment from buckling along the beltline. The covering fabric surrounds and holds the core fabric and provides a comfortable surface next to the wearer. Such curtains are not stretchable and with such curtains, the trousers, skirts, etc., must always be slightly larger than the normal waistline of the wearer to prevent the garment from becoming uncomfortable when the wearer bends over or when the waist expands for some other reason. Some beltless trousers have been fitted with adjustable tongue and buckle attachments at the sides, some of which inslude elastic, but such devices produce puckers in the waistline and are not generally very satisfactory.

Among the objects of the invention is to provide an elastic curtain for applying to the waistlines of outer garments.

Among other objects of the invention is to provide an elastic curtain which, when applied to an outer garment made of stretchable fabric, or a garment made of a fabric that is cut on the bias in the region of the waistline, provides a nonpuckering, close fitting garment that readily supports itself from the waist of the wearer.

Among still other objects of the invention is to provide an elastic curtain which can be substituted for the non-stretchable curtain usually applied to trousers, skirts, etc., which provides the equivalent stiffening and protection for the wearer that the customary curtains provide and which, at the same time, is elastic to fit closely about

the waist of the wearer at all times and without discomfort.

The objects of the invention are attained by providing a curtain with a core made up of an elastic strip finished on both edges, which is stretchable lengthwise but not transversely, and with a covering of a two-way stretch elastic fabric that is preferably knitted. Both the core and covering fabric are washable and dry cleanable. The outer covering is attached to the core in any suitable way that does not inhibit the stretch as by stitching, spot fusing or bonding, etc. The outer covering need not completely surround the core body, but should extend over the side of the core that is to be the inside or body-contacting surface of the curtain and at least beyond the edge of said side that is to become the lower side in the garment.

The covering fabric extends at least up to the upper edge of the tape core and a portion of the covering fabric extends above the core portion for attaching to the garment, but this is not essential. The upper part of the curtain can be attached to the garment by stitching which extends through both of the curtain fabrics. The suspended portion of the curtain, hanging below the edge of the core, provides a means for fixing the position of the curtain in the garment by additional stitching.

The portion of the two-way stretch covering fabric extending below the core is referred to as a "lip" and it is the lip which is attached to said garment. Preferably, when the curtain is sewed to the garment, a stretchable sewing thread is employed to ensure complete stretchability of the curtain. The two-way stretch of the covering fabric brings the fabric of the garment close to the body without interfering with the elasticity of the core portion and without producing curl in the core portion. Both the core portion and the outer fabric can be obtained as prefabricated products available on the market.

The core material should be washable and dry cleanable so that the elastic thereof should be mainly of synthetic elastomers.

Examples of washable and dry cleanable two-way stretch fabrics that can be employed as the covering fabric are knitted fabrics containing polyurethane threads as the elastic means. A preferred fabric is the Raschel knitted power net containing 48% nylon, 34% cellulose acetate and 18% "Lycra" (polyurethane). This fabric has two-way expansion with 100% recovery and is completely washable and dry cleanable. The term "two-way stretch fabric," "two-way stretch fabrics," or "two-way stretch elastic fabric," as used in the specification and claims will be understood to designate "two-way stretch fabrics" as they are known and referred to in the garment industry, i.e., to fabrics which are simultaneously stretchable to a substantial degree in two directions at right angles to each other and which have substantially 100% recovery.

Stretchable threads used for sewing are available on the market and include nylon. A very satisfactory sewing thread comprises the expanding thread made with a dacron filler wrapped with cotton.

The invention consists in certain novel features of construction which can be readily understood by reference to the description of the drawing, in which:

FIG. 1 is a perspective rear view, partly cut away, of an elastic curtain made according to the invention.

FIG. 2 is a view similar to FIG. 1 showing a modified form of elastic curtain.

FIG. 3 is a front view of the curtain of FIG. 2.

FIG. 4 is a view of a pair of trousers illustrating how the curtain is applied to the waistline of a pair of trousers.

FIG. 5 is a detail view showing how the end of the curtain is attached at the opening in the trousers.

FIG. 6 is a detail view taken on line 6—6 of FIG. 4.

FIGS. 7 and 8 are views illustrating how a modified form of the curtain is applied to the trousers of FIG. 4.

FIG. 9 is a cross-sectional view of a modified form of curtain.

FIG. 10 is a cross-sectional view of the curtain of FIG. 9 as it is attached to a waistband of a garment.

As illustrated by FIG. 1, the curtain **10** of the invention comprises an inner or core fabric **11** having finished edges **12** and **13** which is stretchable longitudinally, as illustrated by the double arrow 14. The particular fabric shown is of the type which contains longitudinal elastic threads distributed throughout its width and two additional rows **15** of fairly heavy elastic threads in the central portion thereof. It is obvious, however, that any fairly strong elastic tape with finished edges can be used as the core body **11**.

The covering fabric **20** of FIG. 1 is a two-way stretch fabric, which is knitted, as on the Raschel knitting machine. As already indicated, FIG. 1 shows the rear side, or the side that will be concealed in the normal use of the curtain **10**. Thus, the fabric **20** passes underneath the tape **11** as shown in FIG. 1, extends partially around the tape **11**, is further looped to form a hem or lip **21**, and is finally secured to tape **11** by stitching **22**. Additional stitching **23** may be added to attach the upper part of tape **11** to fabric **20**, but stitching **23** is not essential. Since the tape **11** is a fairly thick, bulky tape, in its relaxed condition and decreases in thickness when stretched, the threads used for stitching **22** and **23** are not so tightly held in said curtains so as to be stretched beyond their elastic limit when the curtain, as a whole, is stretched lengthwise, especially when threads having elasticity, such as "nylon" or "Dacron" threads, or wrapped threads with a nylon or Dacron core, are employed. If desired, however, a looped form of stitching, as illustrated at **24** in FIG. 2, can be employed. The fabric edge **25** extends beyond the upper edge **13** of tape **11** and provides a border for attaching the curtain to a garment. Lower border or hem **21** is preferably employed to attach the curtain to a garment. With the addition of the lip, it is possible to provide a curtain within the garment which stretches somewhat before any stretching tension is applied to the garment waistline, per se, by the wearer.

The modified form of curtain **10–1** of FIG. 2 shows a core tape **11–1** with three rows of heavy elastic threads **15** to which the two-way stretch elastic fabric **20** is attached after passing over one side and partially over the other side of tape **11–1** by stitching **22** and **24**, said stitching **24** being a loop type of stitch which is somewhat looser than the straight stitching **22**. Lower edge **21–1** also extends beyond the edge of core **11–1** and can be employed for attaching to said curtain to a garment. As already indicated, the two parts of the curtain can also be connected by bonding with adhesive, or by fusion, where the fabrics include components which are fusable.

As already indicated, the curtain is especially well adapted for attaching to the waistlines of outer garments and the advantages obtained in resultant garments is that said garment securely hugs the waistline of the wearer, expanding and contracting as the wearer walks, bends or moves about, growing or shrinking as the wearer gains or loses weight, and without ever producing a puckering or wrinkling in the fabric of the garment. No belt, adjusting tabs or belt loops are required. FIGS. 4–8 illustrate how such a curtain is attached to a pair of trousers **30** in which the waistband forming portion thereof is made of stretchable fabric or fabric cut on bias. Thus, the extending edge **25** of the elastic knitted fabric can first be secured to the edge **31** of the garment **30**, as by stitching **32**, as shown in FIG. 7, or by any other means such as bonding or fusing. The stitching **32** at the top, can be free of the core **11** as shown in FIG. 7, or the stitching **32–1** can pass through the core tape as shown in FIG. 6. The curtain is folded inside the garment as illustrated in FIG. 8 and attached by the line of stitching **33**, as illustrated in FIG. 8. In a pair of trousers, the lower edge **21–1** of the curtain should be attached to the waistband and this can be accomplished so that no stitch is visible on either side of the waistband by a blind stitching machine, or even by a plain sewing machine. As shown in FIG. 6, the lower edge of the curtain can be attached by a stitch **33** passed at the trouser joining point through the parts and the curtain **20**. The end of the curtain is within the fly **35** of the trousers as shown in FIG. 5.

In the modified form shown in FIGS. 9 and 10, a separate lip portion **40** has been added for attaching the lower edge of the curtain to the trousers. This lip **40** is formed of the same two-way stretch fabric as cover **20**, and it will be realized that it can be formed as a continuous part of the cover **20**. The additional lip **40** provides a neater, more symmetrical waistband and justifies the added expense required for the formation thereof.

I claim:

1. A garment for outerwear of the type comprising at least a portion extending below and supported from a waistline and having a waistband portion formed of fabric which is stretchable to a substantial degree in at least the circumferential direction, in combination with a curtain within said waistband portion, said curtain comprising a heavy core tape with finished edges which is stretchable lengthwise extending within the waistband of the garment and a knitted, two-way stretch fabric extending over the inside surface of said core tape, around the bottom edge of the core tape, below said bottom edge to form a lip and being attached to the outer surface of said core tape, elastic stitching means attaching the upper edge of said two-way stretch fabric to the upper portion of the waistband of the garment, and extensible means attaching the lower portion of said two-way stretch fabric to said garment.

2. The garment as claimed in claim **1** wherein said garment is cut on the bias in the region of the waistband portion to provide said stretchable waistband portion.

3. The garment as claimed in claim **1** wherein the elastic stitching means for attaching the upper portion of the two-way stretch fabric to the upper portion of the waistline of the garment also passed through said core fabric.

4. The garment as claimed in claim **1** wherein said means for attaching the lower portion of said two-way stretch fabric to said garment passes through said lip.

5. The garment as claimed in claim **1** wherein said curtain contains an additional lip formed of two-way stretch fabric between the garment and the outer side of said core tape adjacent the first named lip, and means for attaching said lower portion of said curtain to said garment by means of said additional lip.

6. In a garment of the type having a waistband adapted to closely cling to the body of the wearer and wherein said waistband is formed of material which is stretchable circumferentially to a substantial degree, an improved stretchable curtain for mounting within the waistband region of said garment comprising a heavy core tape having finished edges and being stretchable in the lengthwise direction, a knitted, two-way stretch fabric extending over said core tape on the wearer's side thereof from the top edge of said core tape to, below and around the lower edge of said core tape, means securing the lower edge of said two-way stretch fabric to the outside lower edge portion of said core tape, to thereby form a lip extending below the lower edge of said core tape, whereby said curtain is adapted to be attached to the waistband region of said garment along the upper and lower edges of two-way stretch fabric.

7. In a garment as set forth in claim **6**, the improvement comprising an additional lip formed of two-way stretch fabric adjacent the first named lip and on the

garment side of said first named lip whereby the lower part of said curtain is adapted to be attached to said garment through said additional lip.

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H. HAMPTON HUNTER, Primary Examiner

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