March 14, 1950 J. V. COHN 2,500,911

ROLL COLLAR

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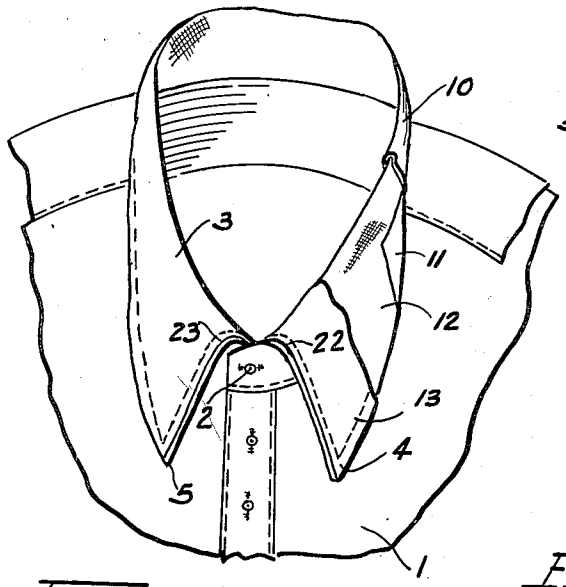


FIG. 1

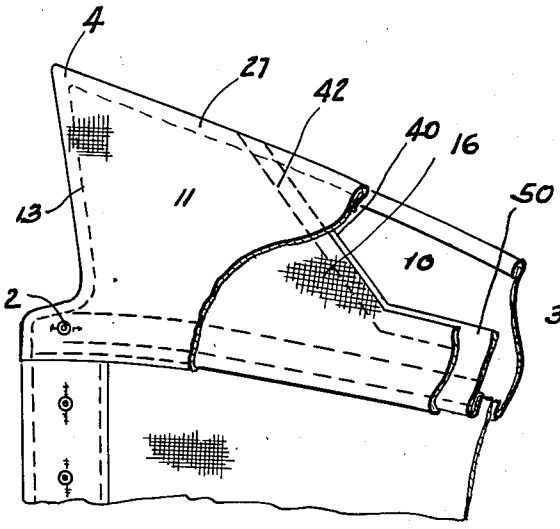


FIG. 2

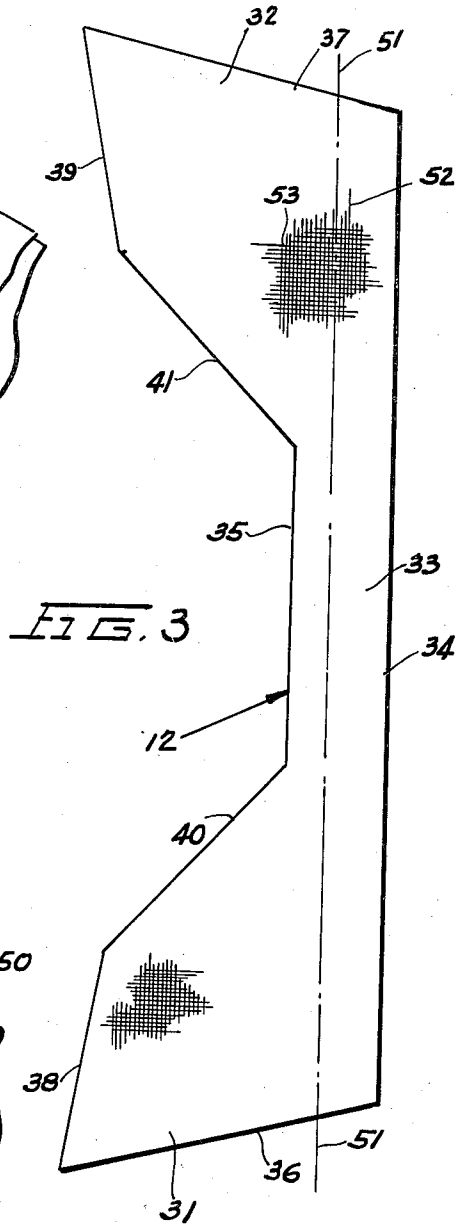


FIG. 3

INVENTOR.
JACOB V. COHN
BY Greene & Durr
ATTORNEYS

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ROLL COLLAR

Jacob V. Cohn, Detroit, Mich.

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3 Claims. (Cl. 2—131)

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This invention relates to a collar for an article of apparel.

More particularly it relates to collars for shirts.

The first portion of a clean shirt to become mussed or show signs of wear is the collar. Collars become wrinkled, curled and dirty before the other portions of the shirt because they are exposed more to the atmospheric conditions and to perspiration from the neck of the wearer. The collars are also apt to become wrinkled because of the frequency with which the collar is bent due to movement of the head and neck of the wearer, etc. To improve the resistance of the collar to wrinkling, wilting, etc., various means have been suggested and employed. For example, "fused" collars which comprise a layer of laminated fabrics made by uniting two or more pieces of fabrics by means of thermoplastic threads or materials have been suggested and are used extensively. Even with this type of collar the points of the collar will curl and become otherwise distorted. To overcome curl in the points of the collar it has also been proposed to provide for the insertion of removable stays in the collar points. For example, a slot is provided on the under surface of the collar points and small strips of relatively stiff material such as Celluloid is provided to be inserted in the slots during wearing. These stays must be removed during laundering and are often lost. Furthermore, they are sometimes difficult to insert in a freshly laundered shirt and so ordinarily they are left out by the wearer.

Recently the roll type of collar has become popular in the trade. Aside from different style effects which it produces the roll collar has certain other advantages such as not being easily distorted by a heavy tie and being very well adapted to be worn either open as a sport shirt or closed as a dress shirt. With roll collars the points of the collar are ordinarily made longer than usual so that there is more of the point to curl. The "roll" referred to is a convex outward curve in the collar between the neck band and the points.

I have now found that it is possible to produce a roll collar which has a smooth even curvature and which has much greater resistance to wrinkling and crushing than previous collars. The stiff smooth roll or curvature which my collar has is inherent from the construction of the collar and is not dependent upon the addition of stays or similar types of structures.

An object of this invention is to produce a roll

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collar with a smooth even curvature and a natural roll.

Another object of the invention is to provide a roll collar which has superior resistance to crushing and wrinkling when worn.

Another object of the invention is to produce a roll collar which has superior resistance to wilting due to perspiration and superior resistance to undesirable curling of the points of the collar.

These objects and others ancillary thereto are obtained by including in the collar construction a flexible but stiff fabric insert. The insert is made of interlining material. At the edge of each wing of the collar the insert extends between the point of wing and the neckband of the collar. It may extend into and be anchored as by sewing in the neckband. The insert does not extend into the outside portion of the back of the collar or in other words at the part intermediate the collar points or wings, although, if desired, the insert may extend all around the neckband part of the collar. At some area between the points and the back of the collar, the insert is cut on a bias sloping away from the points. The edge portions of the insert may be sewed to the lining and/or outside fabric of the collar. The bias cut edges may be unattached to the remainder of the collar or they may be sewed to the inside or liner portion of the collar.

The insert is made of interliner fabric or similar material. Various types of interliner fabrics may be employed. Directionally stiff interliner material; i. e., fabrics which are stiffer in the direction of the warp than in the direction of the woof or filler threads, or vice versa, may be employed. Or interliner fabrics which are fairly stiff in the direction of both warp and woof may be employed. Fabrics may be made more flexible in one direction than in the other by making the warp or the woof at least partly of animal fibers such as mohair, angora goat, wool, casein wool, or horsehair while employing cotton, vegetable fibers for the fibers in the opposite direction. Nylon and silk can also be employed for the fibers in one direction. It is also possible to increase or decrease the stiffness of the warp or woof of a fabric by treating with a chemical which affects one set of parallel fibers while being inert to the other set of fibers. For example, the filler fibers may contain thermoplastic or soluble fibers such as fibers of cellulose acetate, copolymers of vinyl chloride and vinyl acetate, vinylidene chloride, etc.

A very important feature of the present invention relates to the way in which the insert of

the interlining fabric is cut. The insert is cut so that its direction of greatest resistance to stretching is at least approximately along a line parallel to the neckband of the collar. The line of greatest stretchability or flexibility is diagonal with respect to the direction of greatest resistance to stretch and is therefore approximately parallel to the bias or diagonal edge of the insert. There is therefore a pronounced tendency for the insert to produce an even roll in the collar when it is stretched or extended. Thus, by manipulating the collar, as when ironing after washing, the insert can be extended in the direction of its greatest extensibility and owing to the increased resistance to stretching along the warp or woof of the fabric the insert will curve about an axis parallel to the direction of the stretch. This tendency to curve or curl when extended along a line diagonal to the warp or woof will be noted in any fabric, particularly in any plane woven fabric. Interliner fabrics are so constructed as to produce stiffness while also having flexibility. When the flexibility is greater along one set of threads (the warp or the woof) than along the other set, and when the insert is made with the direction of greatest stiffness parallel to the neckband, then the direction of greatest flexibility is in the direction of the roll of the collar and a neat, draped, roll effect is produced. When a rectangularly shaped fabric is stretched diagonally, there is a tendency for the fabric to curl back and forth in two directions but by cutting the fabric diagonally or along a bias, this tendency to curl or roll in two directions is avoided.

The novel features characteristic of this invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of specific embodiments when read in connection with the accompanying drawing in which:

Figure 1 is a perspective view partly cut away of a shirt containing the collar of the invention.

Figure 2 is a detailed view of one of the collar points.

Figure 3 is a detailed view of the insert.

In Figure 1 the collar **3** is shown attached to the shirt **1** and the collar is closed, in the drawing, by the button **2**. As shown in the drawing the collar from an area adjacent the button **2** to the points **4** or **5** has a convex curvature with respect to the remainder of the shirt. This curvature is greatest close to the neckband adjacent the parts numbered **22** and **23**. Although the collar is shown attached to a dress shirt it is obvious that it may be attached to any type of sport or dress shirt whether they may be men's, boys' or ladies' shirts. The collar may also be employed in the manufacture of jackets, coats, sweaters and any type of garment which employs a collar.

The collar itself is substantially the same as the ordinary collar except for the insert heretofore referred to and shown at **12** in the drawing. The collar shown comprises an outside fabric **10** (which may be of the same material as the shirt or may be the shirt material combined or fused to a stiffening fabric), a backing **11** and the insert **12**. The parts of the collar are attached together in the usual way as for example by the stitches **13**.

The insert comprises two end portions **31** and

32 adapted to extend into the points or wings of the collar and a narrow intermediate portion **33** which is equal to or slightly greater than the width of the neckband at the back of the shirt. One edge of each of the wings **31** and **32** of the insert is continuous with an edge of the intermediate portion **33** along the line **34** and this edge **34** is parallel to the edge of the collar where the collar is attached to the shirt. The edges **36, 37, 38** and **39** are also cut to substantially coincide with edges of the finished collars. The edge **35** of the intermediate portion is connected to the edges **38** and **39** respectively by the bias or diagonal cut edges **40** and **41**. The parts of the insert which coincide with the edges of the collar may be sewed to the collar by a kind of French seam type of stitch **13** or its equivalent. The bias cut edges **40** and **41** of the insert are preferably sewed to the under part **11** of the collar as shown at **42** but the stitches do not extend through the outside fabric **10**. The bias cut edges **40** and **41** may be left unattached to the remainder of the collar.

The point on the edge **27** of the collar from which the bias cut edges **40** or **41** begins to slope toward the intermediate portion **33** of the insert may be varied depending on the style, size of wings or other features desired in the collar.

Where the outside collar fabric **10** is somewhat transparent an additional layer of fabric **50** may be provided to prevent the insert **12** from showing through the outside fabric. Interliner fabrics ordinarily have some coloration and this extra lining fabric is desirable in some cases.

In the insert shown in Figure 3 the direction of greatest strength is along the line **51—51** and this line **51—51** will form the top of the collar (as nearly as the top of a roll collar can be determined). The line **51—51** is parallel to the warp threads **52** of the fabric. The woof threads **53** will preferably contain animal fibers such as horsehair, angora goat wool, or casein wool so as to give the fabric a slightly greater extensibility in the direction of the woof **53** than in the direction of the warp **52**.

Contrary to expectations it has been found that after laundering the shirt the roll of the collar is actually improved. In fact, almost any manipulation of the collar such as ironing or working with the fingers, etc. causes the insert to roll more.

It will be seen that this invention provides a roll type of collar which has a smooth even roll or curvature which is more resistant to wilting and crushing than collars of the ordinary type.

When a fabric is used for the making of the insert which would have a likelihood of unravelling in the course of its use and laundering, it is desirable to enclose the fabric or treat it to prevent such unravelling. For example, the insert may be enclosed in other cloth in any suitable way, as for example by covering the insert with a fabric and stitching the covered material to the fabric in some suitable manner.

Alternatively, the exposed edges of the insert alone may be protected by means of a fabric folded over the marginal exposed areas and stitched thereto as for example one-quarter inch in from the edge. The covered material which thus protects the insert against ravelling not only does not impair the roll effect obtained by the insert but may improve that roll effect.

As a further alternative in the protection of the insert against unravelling, the exposed cut edges of the insert may be coated with a plastic

material which acts to bind these exposed edges and prevents their unravelling. A suitable plastic material is for example, a cellulosic lacquer, such as cellulose acetate in a solvent, which is applied to the edges of the insert by dipping the insert in a solution or by brushing the plastic solution on to the edges. Upon drying the plastic sets and binds the exposed cut edges of the insert, thus preventing unravelling.

Although certain specific embodiments of this invention have been shown and described, it will be understood that many modifications thereof are possible. This invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the appended claims.

I claim:

1. In a collar for an article of apparel which has a neck band, said collar being of the soft type adapted to fold over adjacent the neck band and having at least one wing or point, the outer exposed fabric of the folded collar being formed from ordinary shirt fabric, the improvement which comprises at least one relatively stiff fabric insert attached beneath the outer fabric of the collar, the fabric of said insert material being relatively non-extensible in the direction of at least one of the warp and woof threads, but having a greater extensibility in a diagonal direction with respect to the warp and woof, said insert being substantially coextensive with the collar at a wing or point and extending into the neckband thereof but receding away from the outside edge of the collar said insert starting to recede diagonally at a point along the outside edge of the collar spaced inward from the collar point, toward the back of the collar and ending before the neckband is reached, said insert being cut from the fabric in such a way that the direction of greatest strength of the insert is along a line substantially parallel to the neckband of the collar and the diagonal receding line of the insert is substantially parallel to the direction of greatest extensibility.

2. In a collar for an article of apparel which has a neck band, said collar being of the soft type adapted to fold over adjacent the neck band and having two wings or points, the outer exposed fabric of the folded collar being formed from ordinary shirt fabric, the improvement which comprises at least one relatively stiff fabric insert attached beneath the outer fabric of the collar, the fabric of said insert material being relatively non-extensible in the direction of at least one of the warp and woof threads, but having a greater extensibility in a diagonal direction with respect to the warp and woof, said insert being substantially coextensive with the collar at the wings or points and extending into

the neckband thereof but receding away from the outside edge of the collar said insert starting to recede diagonally at a point along the outside edges of the collar spaced inward from the collar points, toward the back of the collar, and ending before the neckband is reached, so that the pointed portions of said insert are connected at the back by a strip which is narrower than said collar, said insert being cut from the fabric in such a way that the direction of greatest strength of the insert is along a line substantially parallel to the neckband of the collar and the diagonal receding line of the insert is substantially parallel to the direction of greatest extensibility.

3. In a collar for an article of apparel which has a neck band, said collar being of the soft type adapted to fold over adjacent the neck band and having two wings or points, the outer exposed fabric of the folded collar being formed from ordinary shirt fabric, the improvement which comprises at least one relatively stiff fabric insert attached beneath the outer fabric of the collar, the fabric of said insert material being relatively non-extensible in the direction of at least one of the warp and woof threads, but having a greater extensibility in the diagonal direction with respect to the warp and woof, said insert being substantially coextensive with the collar at the wings or points thereof but receding away from the outside edge of the collar said insert starting to recede diagonally at a point along said outside edge of the collar spaced inward from each collar point, toward the back of the collar, and ending before the neckband is reached the receded portions of the insert being connected by a narrow band, said insert being cut from the fabric in such a way that the direction of greatest strength of the insert is along a line substantially parallel to the neckband of the collar and the diagonal receding line of the insert is substantially parallel to the direction of greatest extensibility.

JACOB V. COHN.

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