Dec. 24, 1935. R. TUCKER 2,025,485

MAN'S SHIRT

Original Filed Nov. 21, 1933 2 Sheets-Sheet 1

Fig. 1.

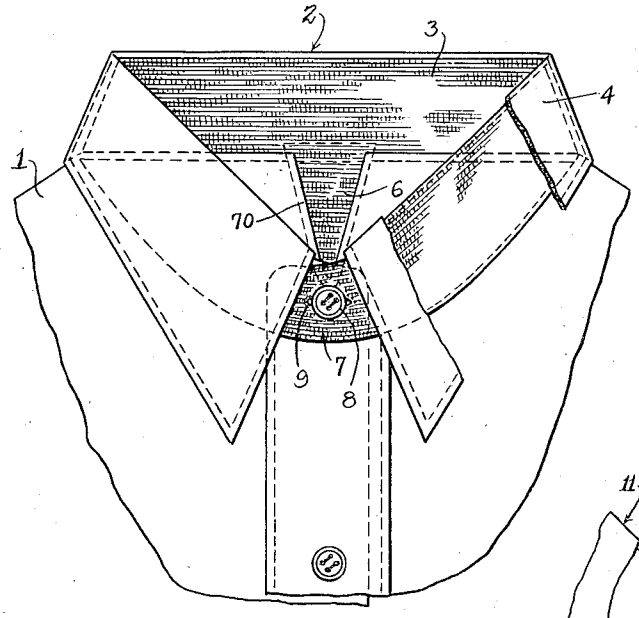



Fig. 2.

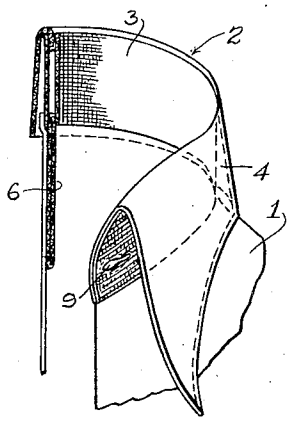
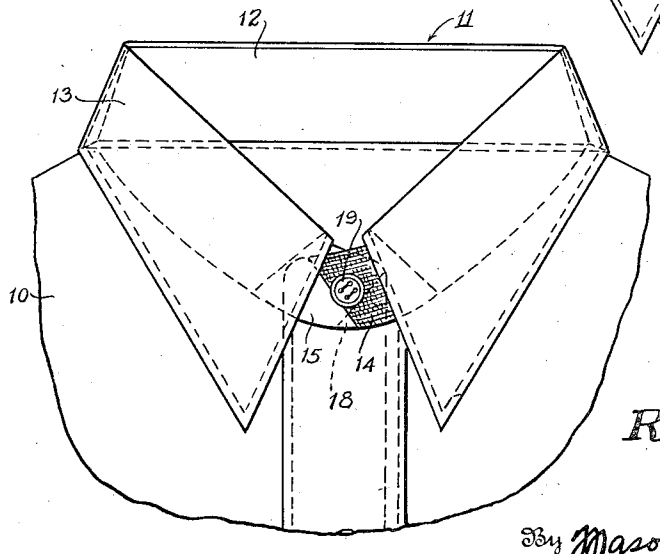



Fig. 3.



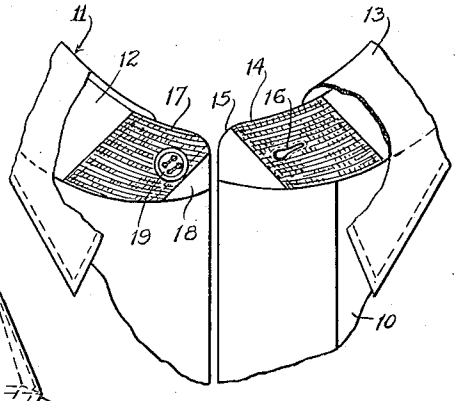




Fig. 4.

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Fig. 5.

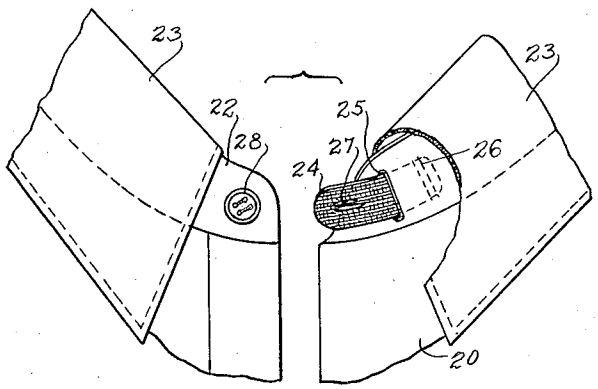



Fig. 8.

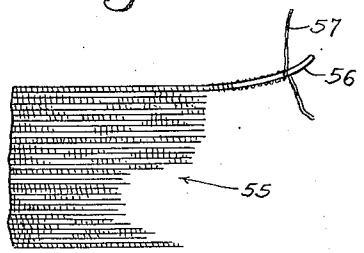



Fig. 9.

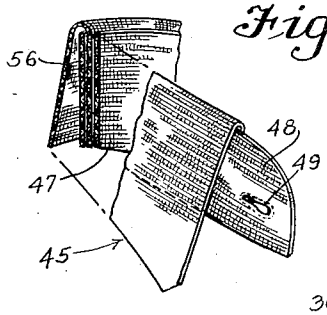



Fig. 6.

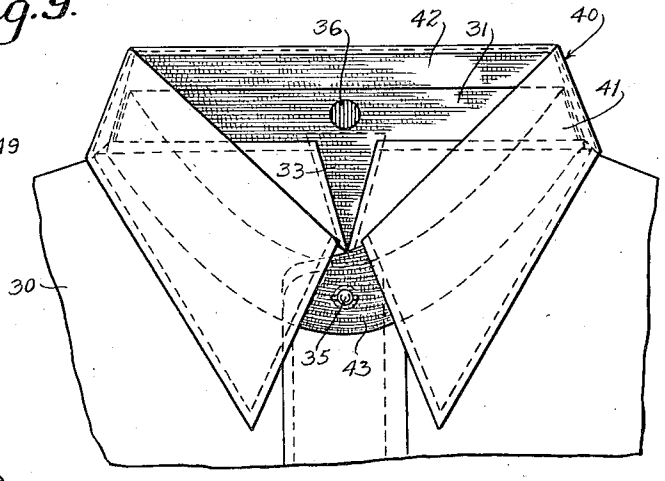



Fig. 10.

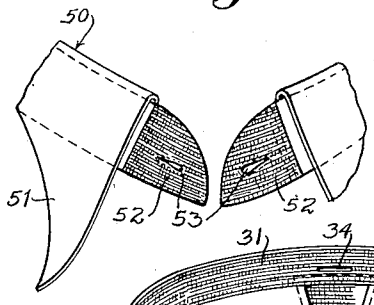
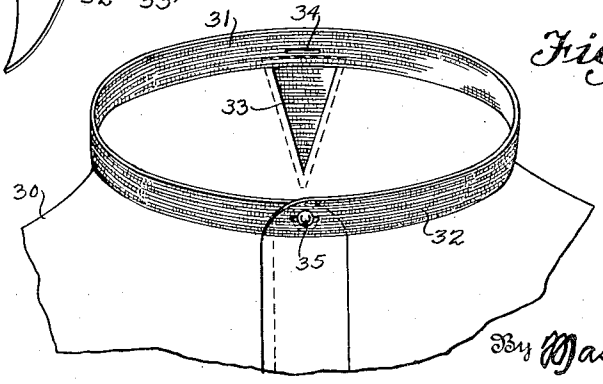



Fig. 7.




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# UNITED STATES PATENT OFFICE

2,025,485

## MAN'S SHIRT

Ralph Tucker, Larchmont, N. Y., assignor to The Commercial Shirt Corp., New York, N. Y., a corporation of New York

Original application November 21, 1933, Serial No. 699,077. Divided and this application May 12, 1934, Serial No. 725,388

2 Claims. (Cl. 2—127)

This application is a division of application Serial No. 699,077, filed November 21, 1933; and relates to improvements in men's shirts, with more particular relation to improvements in the collars and neckbands of the same.

One of the objects of the invention is to overcome the fault present in most all shirts, i. e., the shrinking of the collar and collar-band after the shirt has been laundered.

A further object of the invention is to provide a new and improved expansible collar-band.

Another object of the invention is to provide a collar-band of a definite size that may expand in the right proportion according to the shrinkage taking place from laundering.

Another object of the invention is to provide a flexible collar-band in which is incorporated fine strands of rubber for permitting expansion of the band when in use.

In the accompanying drawings forming part of this specification—

Figure 1 represents a front elevation, partly broken away, of a shirt with attached collar embodying my invention;

Figure 2 represents a detail vertical view of the same, shown partly in section;

Figure 3 represents a detail front elevation of a modified form of the invention;

Figure 4 represents a detail front elevation, partly broken away, of the structure shown in Figure 3, the front sections being separated;

Figure 5 represents a detail front elevation of a shirt with attached collar embodying a modified form of my invention;

Figure 6 represents a detail front elevation of a shirt with detachable collar, the shirt neckband and collar neckband being of the woven elastic fabric;

Figure 7 represents a detail front elevation of the shirt alone with the woven elastic neckband and V insert of woven elastic;

Figure 8 represents a magnified top plan view of a section of the woven elastic material showing the thread-like warp and the cotton or linen weft;

Figure 9 represents a detail front elevation, partly in section, of a collar composed entirely of elastic fabric;

Figure 10 represents a detail front elevation, broken away, of a collar having elastic fabric buttonhole tabs at the front of the collar-band.

It has heretofore been old to provide the neckband of a shirt with rubber elastic material superimposed between non-elastic fabric of cotton or the like.

In this structure, the tension on the rubber pulls the non-elastic fabric into folds or creases so that as the elastic stretches, the folds are straightened out to allow such expanding movement of the collar-band.

Such a structure is very uncomfortable and unsightly and is at the best a mere make-shift to provide an expansible collar for correcting the natural shrinkage of a collar-band or collar.

In the present invention, the inventor has taken advantage of the recent invention of a fabric material known on the market as "Lastex". This material to all intents and purposes for both contact with the human skin and appearance, is a woven fabric of very fine texture and may be employed where fine texture fabrics must be employed for appearance' sake. The texture of this fabric is so fine that it practically approximates the appearance of what is known in the trade as broadcloth, which material is almost exclusively used in the manufacture of men's shirts.

By reference to Figure 8 of the drawings, which is greatly magnified, it will be seen that the fabric employed in the present invention comprises a series of warp threads **56**, formed of elastic material. These threads are very fine, so fine, in fact that when they are wrapped with enclosing cotton or the like threads **57**, they form in effect a single thin thread having a fine elastic core of white rubber. The threads **57** are wrapped about the core **56** when this core is more or less stretched, so that when the core assumes its normal position, the threads **57**, which pass about it, are forced more or less over each other so that when the thread **56** is again stretched, the threads **57** will still conceal the core unless abnormal stretching operation takes place.

With this structure, and in such situations as it is to be employed in, the rubber core **56** is practically never visible as the stretching of the warp only causes the threads **57** to fall into place, one beside the other.

The entire thread constituted by the core **56** and the wrapping thread **57** is treated as a single thread and woven into the fabric by suitable weft threads so that then the finished product has the appearance of broadcloth.

Such a fabric is expansible in the direction of the warp without in any wise disturbing its uniform appearance and without causing any undue separation of the weft threads such as might give an unsightly appearance. As a matter of fact, the fabric when expanded, to all practical purposes, does not change its appearance what-

ever, and is still apparently a piece of fine texture broadcloth.

With this thought in mind the inventor in the present case is seeking to overcome one of the greatest defects in men's shirts today; and that is, the shrinking of the shirts with their collars and neckbands to such an extent as to render them useless after they have been laundered a certain number of times.

Many of the higher priced shirts have been treated by preshrinking processes. These are rather expensive and are never thoroughly effective, so that a shirt that might fit perfectly about the collar and collar-band when purchased, soon becomes unwearable because of shrinking.

This is true not only of shirts, but of pajamas and other garments that are continually laundered and have a natural average of shrinkage that might be compensated for.

By reference to Figure 1, which illustrates a shirt with a so-called "attached" collar, 1 represents the shirt proper, 2 the collar which comprises a collar-band 3, and an outer collar proper 4. The collar-band 3 comprises two layers of the elastic fabric shown in Figure 8, attached to the top of the shirt 1, and to the collar proper 4 by suitable stitching.

The shirt 1 and collar 4 are manufactured of the usual ordinary broadcloth. A buttonhole 9 is provided in the elastic tab 7 as shown in Figures 1 and 2 and this buttons over the usual button 8 which is secured to the opposite tab 5 of the collar-band.

A V notch 10 is provided in the back of the shirt adjoining the collar-band and this V notch is covered with a double thickness of elastic fabric 6, similar to the collar-band 3. The office of this V notch is to allow the entire collar-band and also the top of the shirt to expand, should the shirt itself and collar-band shrink from laundering.

In the modified form of my invention, shown in Figure 3, inserts 14 of the elastic fabric are provided in the collar-band 12 which is constructed of broadcloth. These inserts of elastic fabric, as best shown in Figure 4, leave the ends of the collar-band of broadcloth as at 15 and 18. This structure allows for the expansion of the collar-band and collar, but, at the same time, conceals the elastic fabric by the necktie so that the ends of the tabs, which normally show, will not suggest anything but the regular appearance of the broadcloth. The button 19 in this instance is secured to the elastic fabric 17 which forms a continuation of the collar-band 12 and a buttonhole 16 is worked in the elastic fabric insert 14.

In the form of my invention shown in Figure 5, an elastic fabric tab 24, formed with a buttonhole 27, is arranged to button over the button 28 secured to the collar-band 22 of the collar 23. This fabric tab 24 passes through a buttonhole slot 25 worked in the collar-band 22 and is secured thereto as at 26. The expansibility of the collar-band is secured in this way, although this is not the preferred form of the invention.

In Figure 6 I have shown a detachable collar mounted upon what is known as a collar-band shirt. In this instance the rear collar button 36 passes through a suitable buttonhole in the elastic fabric collar-band 42.

The tabs 43 at the front of the collar are secured in position over a collar button 35 by suitable buttonholes worked in the band 42 of the collar.

The front of the collar 41 is of the usual broadcloth material. In this particular instance of the application of my invention, the shirt band 31 is also formed of the elastic fabric with double layers and a suitable button hole 34 worked through the back of this, as best shown in Figure 7.

The elastic fabric V insert 33 is provided practically in the same manner as in Figure 1, except that it expands in using with a shirt collar-band and instead of a collar-band.

In the modification of my invention, shown in Figure 9, I have formed an entire detachable collar of the elastic material. Such a collar would be employed either on an attached collar shirt, as illustrated in Figure 1, or on a detachable collar shirt, as illustrated in Figure 7, the entire collar expanding. Numeral 45 designates the collar made of the elastic material having the core 56 as illustrated in Figure 8, the collar band comprising two layers of elastic fabric, the inner layer designated by numeral 47, and the outer layer bearing numeral 48. A buttonhole 49 extends through the two layers 47 and 48. Such a structure is feasible as, because of the peculiar construction of this elastic fabric, the appearance of the outside of the collar practically does not change at all when the fabric is expanded.

In the modified form of my invention shown in Figure 10, I have constructed the tabs 52 with buttonholes 53 and secured these tabs to the collar-band 50 of a detachable collar 51. By this means, I secure the same expansibility as is secured by the elastic inserts shown in Figure 4.

It will be understood that in illustrating the present invention, the portions that are constructed of the new elastic fabric have been "hatched" to show the presence of this fabric, but, as a matter of fact, the difference in appearance between the regular non-elastic broadcloth and the new elastic fabric, is so slight that even where portions of the elastic material are exposed to view, they will not be unsightly; in fact, the elastic fabric being so similar to the regular fabric does not, as a matter of fact, constitute a practical difference in appearance.

The new elastic fabric being so smooth and fine in its structure, does not irritate the neck of the wearer and this is particularly desirable in warm weather.

Further, the new elastic material being composed of a great percentage of absorbent fabric, will not give the same uncomfortable feeling that might result from employing a rubber fabric having a great deal of rubber that prevented the absorption or passage of perspiration. In other words, the employment of the new elastic fabric, in the structure of shirt bands and shirt collars, is such that it is practically used in the same manner as if it were broadcloth, and provides the desired finished appearance of broadcloth, while still having the desired elastic qualities.

It will also be understood that one of the great advantages of the employment of the new elastic material in collars and collar-bands of shirts is that the collar band and the collar will give with each movement of the wearer, thus making the garment particularly useful for golf shirts and other shirts worn by athletes or very active people.

It will also be understood that in the manufacture of garments as above described, the elastic material, where it is joined to the broadcloth or other fabric, is sewed with an elastic thread similar to the warp threads which make up the elastic fabric so that any stretching of the elastic material may be accommodated where it joins the

inner elastic material by the threads stretching more or less.

In the form of the invention shown in Figure 5, it will, of course, be understood that the button may be secured to the elastic fabric tab, and the button hole formed in the collar-band of the collar without departing from the invention.

What I claim is:

1. A shirt having a neck band of a woven fabric in which the warp threads comprise fine rubber cores wrapped with fabric thread combined with fine weft fabric threads and having a gusset of the neck band material extending at the back down into the shirt, said warp threads extending in the lengthwise direction of the collar band, a collar adapted to be secured to said neck band and having buttonholes therein, the region around said button holes being formed of the same material as said neck band.

2. A shirt having a neck band of a woven fabric in which the warp threads comprise fine rubber cores wrapped with fabric thread combined with fine weft fabric threads and having a gusset of the neck band material extending at the back down into the shirt, said warp threads extending in the lengthwise direction of the collar band, a collar adapted to be secured to said neck band and having buttonholes therein, said collar having a collar band, tabs extending beyond said buttonholes and forming the ends of the collar band, the region around said button holes being of the same material as said neck band, the tabs being of the usual shirt material.

RALPH TUCKER.