Jan. 27, 1925. 1,524,491

H. C. SPRENGER

WOMAN'S UNDERGARMENT

Filed Feb. 19, 1921

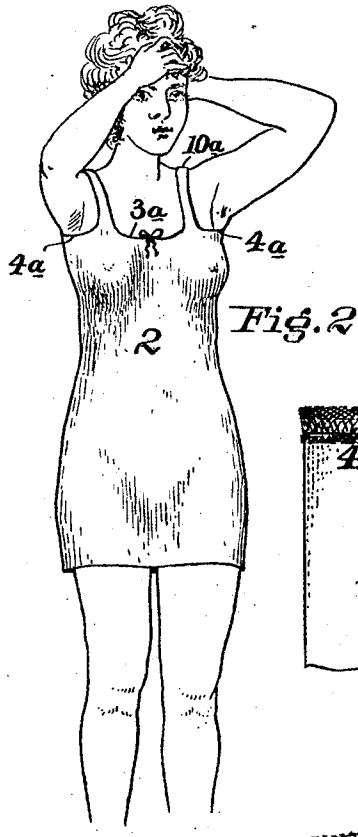


Fig. 2

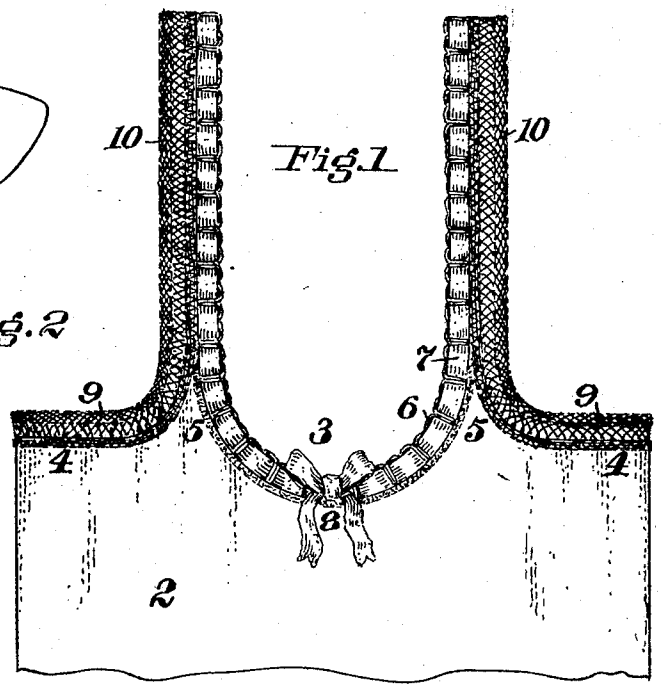


Fig. 1

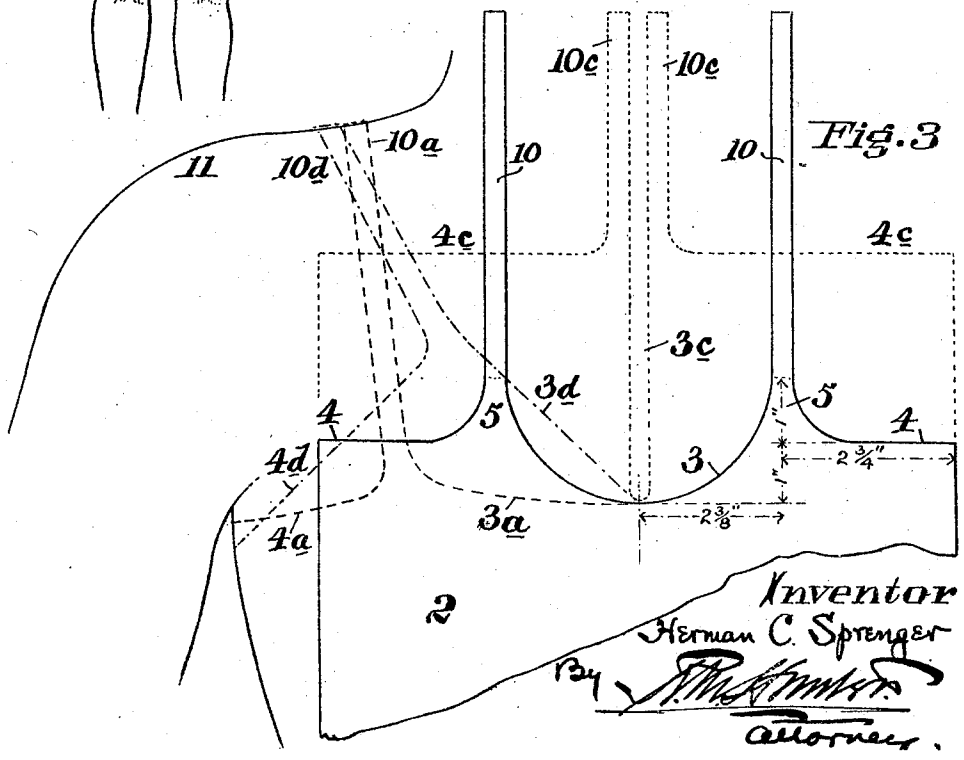


Fig. 3

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Patented Jan. 27, 1925. 1,524,491

UNITED STATES PATENT OFFICE.

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WOMAN'S UNDERGARMENT.

Application filed February 19, 1921. Serial No. 446,251.

To all whom it may concern:

Be it known that I, HERMAN C. SPRENGER, a citizen of the United States, and resident of Spring City, county of Chester, State of Pennsylvania, have invented an Improvement in Women's Undergarments, of which the following is a specification.

The object of my invention is to provide a construction of woman's undergarment and especially the bust portion thereof which by special shaping and combining with shoulder straps will cause the garment when worn to assume a shape substantially corresponding to what is generally known as a low-cut bodice having a practically straight transverse upper edge at the bust portion and provided with shoulder straps; and more particularly in so shaping the knitted fabric of which the upper portion of the bodice is formed that its natural elasticity coupled with the special shape given to it will cause the garment to snugly fit (without sagging) to the body of the wearer and present a substantially horizontal upper edge while being sustained by more or less delicate shoulder straps.

A further object of my invention is to form my improved low-cut bodice of tubular knitted fabric with very little waste material while at the same time taking advantage of the elasticity of the material to insure the horizontal or straight upper edge effect while preventing the falling of the garment under the arms.

With the above and other objects in view, the nature of which will be more fully understood from the description hereinafter, the invention consists in the novel construction of woman's undergarment as hereinafter more fully described and defined in the claim.

Referring to the drawings: Fig. 1 is a front view of the bust portion of my improved garment showing the relative proportion and shaping of the parts before being stretched in the application to the wearer; Fig. 2 is a perspective view showing the garment as applied to the wearer; and Fig. 3 is a diagrammatic view illustrating the manner of cutting the fabric and the shape assumed when applied to the wearer and also comparatively indicating the form of cutting and form of the nearest approach to this type of garment which has heretofore been generally sold on the market.

2 is the body of the garment and is formed of a seamless tube of knitted fabric preferably of a fine ribbed structure which gives considerable elasticity transversely of the length of the tube. Thus, a flattened tube of such fabric of approximately ten inches in transverse width or having a circumference of slightly over twenty inches will stretch properly to snugly fit a form having a bust measure of thirty-eight inches. The upper bounding edge of the body portion is formed by side cuts 4 and middle bust and back cuts 3 with the slight upward junction portions 5, as more fully indicated in Fig. 3. 10 are the shoulder straps and these extend upwardly from the portions 5 intermediate of the side portions 4 and middle portions 3. The dimensions indicated upon Fig. 3 are those which I have found suitable for a garment of thirty-eight inch bust measure and they are given by way of example for a better understanding of the nature of the invention and not by way of restriction, as I do not confine myself to the particular dimensions thus given. As shown, the horizontal transverse edges 4 correspond to the parts that will fit under the arms of the wearer and said horizontal parts extend inward with a slight upward curve corresponding to the part 5; the height of such curve being approximately one inch. Intermediate of the parts 5, 5, is a downwardly curved edge 3 both at front and back of the garment, and this curvature is quite wide and relatively shallow in depth, the same extending approximately one inch lower than the level of the horizontal portions 4, 4. The curvature 3 also extends upward to the top of the parts 5 and said parts 5 are continued in the shoulder straps 10, though these shoulder straps are formed of other material, as will be understood by reference to Fig. 1. In general dimensions, it will be observed that the width of the wide curved middle edge 3 is preferably slightly less than the width of the two portions 4 and this same proportion also pertains to the back of the garment, or in other words, the distance from the parts 5 at front and back along the length of the horizontal edge 4 is preferably slightly greater than the transverse width of the curved portion 3 at front or back, though these relative dimensions may be somewhat changed, if so desired.

The shoulder straps 10 are formed of open-lace edging 6 and closer woven edgings

9 united together and with the former bounding the curved edge 3 and the latter bounding the straight edges 4, as more clearly shown in Fig. 1. The open-lace edging 6 is threaded with a ribbon or tape 7 which may be tied at 8 at the front of the garment and employed for adjustment when necessary to slightly increase or decrease the stretching capacity of the garment to suit the requirements of the wearer.

When the garment thus described is applied to the wearer, the stretching of the garment across the bust and back will cause edges 3 and 4 to assume the positions indicated at 3^a and 4^a in Fig. 3, and the shoulder straps 10 will be drawn down upon the shoulders 11 to correspond to the position 10^a. It will be observed that the lateral stretching between the side portions under the arms to the middle of the bust and back portions will draw the portions 4 relatively downward in respect to the middle portions 3 and will also tend to straighten the edge 3^a of the middle portions, so as in effect to give a substantially straight upper edge to the body, as required in a bodice garment.

To make the special construction and advantages of my improved garment as compared to the character of garment now on the market more readily perceived, I have placed upon Fig. 3, in dotted lines, the said latter garment both in its unstretched condition and when stretched to fit the body of the wearer. The fine dotted lines shown at 3^c, 4^c and 10^c illustrate such a garment before being applied to the wearer and the dot-and-dash lines 3^d, 4^d and 10^d illustrate the same garment when in stretched condition upon the wearer. It will be noted that in this garment at present on the market, the central slit 3^c is practically without material width and the shoulder straps extend upwardly adjacent to the central line of the garment, whereas the horizontal portions 4^c are each equal to one-half the circumference of the fabric. It will also be noted that the depth of the slit 3^c below the horizontal edges 4^c is greatly in excess of the depth of the shallow curvature of the part 3 in my improved garment.

From the foregoing description and explanations, it will be observed that when the garment heretofore commonly employed is applied to the wearer, the shoulder straps 10^c and the slit portion of the body at 3^c at front and back separates, forming in effect a V shape front and back 3^d, the knitted fabric extending well upward toward the shoulders; and further what was formerly the upper edge 4^c now forms an oblique or downwardly extending edge from the shoulder straps to a position under the arms, as indicated at 4^d. This construction provides a very large upwardly extending inverted V shaped fabric portion constituted out of what was previously the body portion 2, thereby giving to the garment a form and shape which extends well up toward the shoulders. In practice, the portions under the arms do not always fit snugly and especially where the wearer is of slight built, or where the garment is somewhat larger than it should be. Under such conditions these portions of the garment hang loosely and wrinkled and are, therefore, more or less objectionable. It is manifest that this garment does not provide a straight edge effect nor a materially low-cut garment, but is something between a high neck garment and a low-cut bodice. Comparing my garment with the garment last described, it will be seen that when my garment is stretched transversely in fitting to the body, the shallow curved portion 3 stretches out almost horizontally, as at 3^a, whereas the horizontal edge 4 still maintains its horizontality but is lowered somewhat to the position 4^a which brings it downward approximately into alinement with the stretched bust and back portions 3^a, and moreover bringing the shoulder strap portions into a substantially vertical position as indicated at 10^a. This construction when applied and snugly fitting the body, therefore gives to the garment the low-cut straight edge bodice effect which is largely employed in fine silk garments and yet with all, it is formed of knitted fabric and, therefore, has an elasticity which insures the garment snugly fitting to the figure of the wearer, even though there was material differences in the size of different persons wearing the same bust measure of garment, this being possible due to the elasticity. It will, therefore, be seen that while the garment as cut provides a wide shallow curved central portion at front and back and higher horizontal side portions joining the central portions in shoulder straps of considerable length, this shape changes when the garment is stretched horizontally in its application to the wearer, assuming a substantial horizontal or substantial straight upper edge and permitting the shoulder straps to extend almost vertically in simulation of the hand made garments produced from woven fabrics as distinguished from knitted fabrics.

It will be seen by reference to Figs. 1 and 3 that by having the level of the side edge 4 where it comes under the arm higher than the bottom of the curved edge of the bust and back portions 3, a side stretching will act on a bias below the binding edging and thereby compensating for reduced elastability of said edgings; and under such stretching the shoulder straps are pulled downward snugly upon the shoulders, with a resulting effect of holding all parts properly to the bust and back and drawing the

upper edge of the body snugly to the back and over the breasts.

My invention has more particular reference to the bust or upper portion of the garment and its lower portion may be made in any manner desired, as for an ordinary under vest or as a chemise or envelope style of garment, as desired.

In the bodice style garments having the straight low bust, the shoulder straps are invariably attached close to the arms to prevent sagging thereunder, but this has a tendency to permit the straps slipping off the shoulders and allowing the bust portion to droop. While my improved knitted garment approximates the bodice requirements, the shoulder straps are connected with the body further from the arms and under the tension exerted by the elasticity of the knitted fabric and they are positively held upon the shoulders under all conditions of usage or exercise.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable, and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that I do not restrict myself to the details, as the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:—

A woman's undergarment consisting of a body of tubular knit fabric having low cut bust and back portions made straight on the sides which come under the arms and part way over the bust and back and also made wide horizontally and further having downwardly cut shallow curved middle bust and back portions each extending of a depth slightly lower than the side portions, and shoulder straps having their ends connected with the junction points of the sides with the curved bust and back portions, the parts so proportioned that when the garment is stretched sidewise, the curved bust and back portions assume an approximately straight shape and substantially in alinement with the side portions and cooperatively produce a downward tension upon the shoulder straps whereby said straps retain their position and the garment is held positively in place and with a straight bust and back bodice effect.

In testimony of which invention, I hereunto set my hand.

HERMAN C. SPRENGER.