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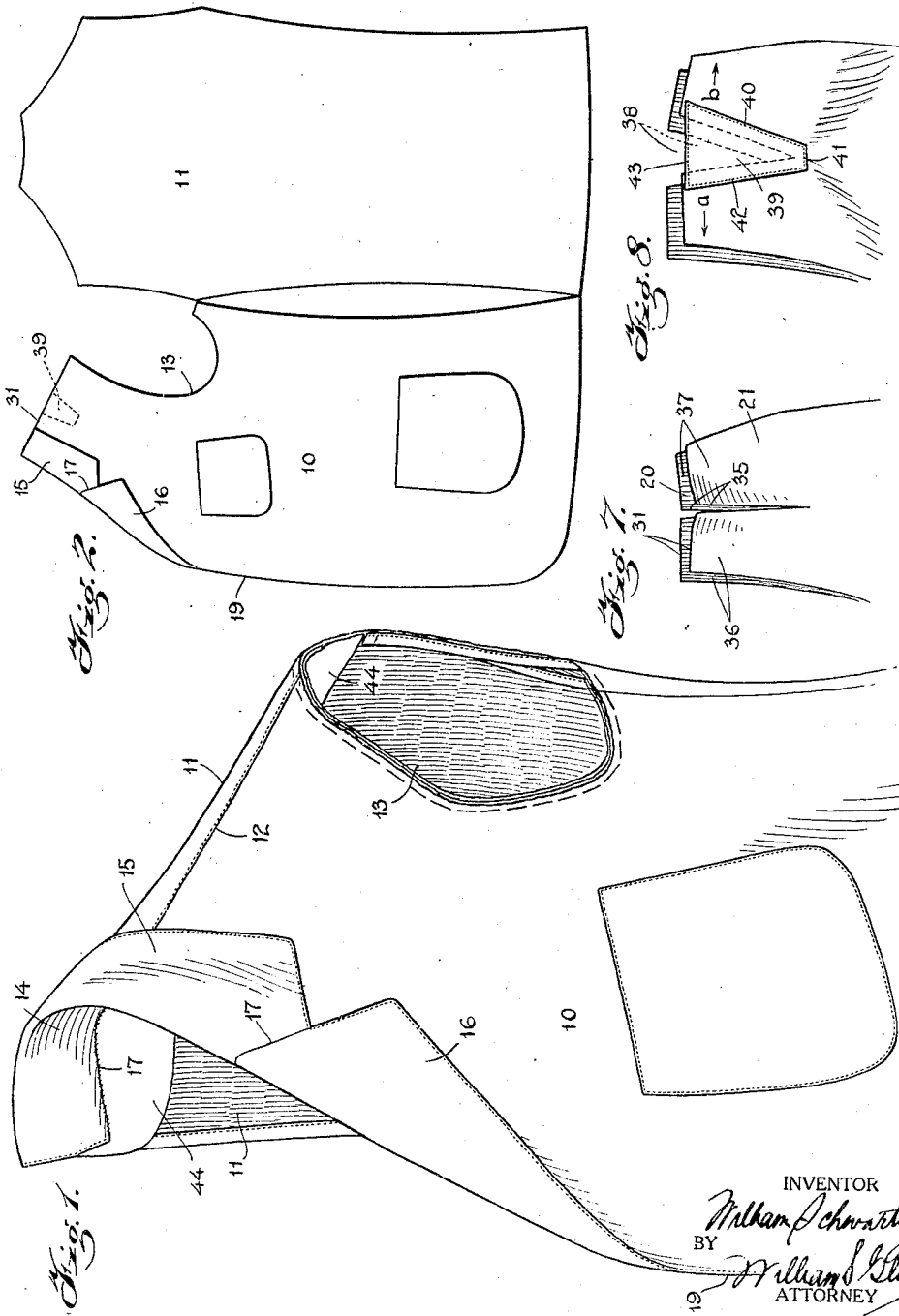
W. SCHWARTZ

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GARMENT

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UNITED STATES PATENT OFFICE.

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GARMENT.

Application filed August 6, 1923. Serial No. 655,874.

To all whom it may concern:

Be it known that I, WILLIAM SCHWARTZ, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Garments, of which the following is a specification.

My present invention relates generally to the manufacture of wearing apparel and more particularly to the shaping of the shoulder of a coat. Wherever herein reference is made to the shoulder of the garment, it will be understood, unless otherwise indicated, that reference is had to the shoulder in its broader sense including such part of adjacent portions of the garment as shape themselves with the shoulder.

Before proceeding to describe my invention, I will premise, that a garment, such as a coat is generally made up of sections of textile or other material which is relatively soft and pliable and which sections are so cut that when joined, they can be made to assume the desired outline or shape. Such materials have not sufficient body or rigidity to maintain any definite shape and therefore it is the general practice to associate with such material, stiffening portions which serve as a foundation to cause such material to assume and maintain a predetermined shape.

In the manufacture of coats for men, the fundamental aim is not only to make a garment that will fit the wearer, that is conform to the measurements and figure of the wearer but also to so build up the garment that the peculiarities of men in general and the special peculiarities of the individual will be provided for. In the attainment of this aim, one of the greatest problems presented resides in the shoulder due to the fact that the shoulder of the individual presents at one end the protrusion of the clavicle and at the other end the upward curve where the shoulder merges into the neck the two being joined by what is the shoulder proper which generally assumes a concavely curved cross section, which curves or dips inwardly or concavely as the shoulder line merges into

the breast and curves concavely as the shoulder works backwardly over the shoulder blade. In addition to this any outward movement of the arm or shoulder or both will vary the distance across the shoulder to the neck and will also vary the contour and configuration of the surface contours between and adjacent the two. In other words we are not only presented with the problem of attempting to build up a garment to fit a portion of the anatomy which is wholly irregular in both dimensions and surface configuration but which also changes with the movements of the upper part of the body and of the upper extremities. In addition the coat will shape itself at the shoulders wholly to that extent to which the fabric material of which the coat is made permits itself to be shaped and where the shaping is dependent wholly upon that of the material which acts as a stiffener (such as canvas or hair cloth) which is totally different from the fabric both in its shaping possibilities and in factors of rigidity, resiliency etc., it is obvious that even though the stiffener may be shaped satisfactorily to the figure, yet it does not necessarily follow that the fabric will also permit itself to shape itself accordingly. I eliminate this factor arising from the different characteristics by causing the shaping operation not to be dependent wholly upon the stiffener but rather to accommodate the stiffener to one of the portions of the garment which is itself made up of the garment material.

It is understood that there are a great many materials that can serve as stiffeners examples being—canvas hair cloth, etc. It will therefore be understood that where ever the term "stiffener" is herein employed or any of the particular "stiffeners" mentioned by name, such word or name is used in its most generic sense as including all materials or any associations thereof which may serve the functions herein indicated as intended to be served thereby.

The difficulties presented are exemplified to a greater extent in the garments of the summer type in which the fabric is of a

much lighter weight and the stiffening members are only skeletonized. For this reason the shaping operation dependent upon or associated with the supporting stiffener is limited necessarily only to such places in which such supporting material is used and in addition the shaping operation is rendered more difficult due to the light weight of the fabric employed. Difficulties arise also from the fact that all men do not conform to one of the standard sizes and in addition due to the variation in the characteristics inherent in the materials, it frequently occurs that two different materials cut from the identical pattern, will make up into finished garments which will vary one and even two sizes.

Attempts have hitherto been made to cause the coat to meet these variations and to conform thereto by either generally so building up the stiffening portion (for instance, the canvas where this is used) in an attempt to give this stiffening the desired attributes whereby provision is made therein for the desired variations and then to have the stiffening act as a foundation to similarly fashion or shape the superposed fabrics.

Where I have attempted to avail myself of the idea of building up the stiffening as mentioned, either by taking advantage of the ready stretchability of the stiffening to cause it to assume a relatively rigid shape that conforms more or less to the contours presented in that portion of the anatomy now being treated, I have found that the stiffening while it possesses a species of resiliency and a "give" so as to accommodate the variations in the contours caused by the movement of these parts of the body, such resiliency is not inherent in the canvas and is lost to the stiffening after use so that the stiffening maintains its stretched position and almost loses the original function desired when it was stretched. Where, on the other hand, I have attempted to give the stiffening a relatively permanent resiliency and flexibility as by the formation of a gusset, i. e. by the insertion of a piece of flexible textile material, I find that while this change may be in the right direction, it nevertheless does not serve the functions which I have in mind for reasons that I will now point out.

Although I illustrate and describe my invention as employed for the fashioning of the shoulder, it will be understood that as to those phases as to which it possesses similar fields of usefulness elsewhere, my invention is to be construed broadly except as limited in the claims.

The shoulder of a coat of this character is generally made up of what is known as the outer front or foreparts the facing or inner front (or the associated facing and lining) and the intermediate foundation or stiffen-

ing support which as already stated may be of a material such as canvas. Where the stiffening alone is made flexible or resilient either by stretching or by the employment of a yieldable gusset, provision must be made whereby not only will it be necessary for the foreparts of the coat to accommodate themselves to the variations in the dimensions and the contours of this stiffening support but the facing must also do so and any irregularity or creasing in the facing will have a similar result on the forepart or coat front and therefore on the coat.

The situation might well be compared to a rubber band having its ends connected by flexible members, one above it and one below it each member being slightly longer than the normal length of the rubber band when unstretched. The tendency of this rubber band when unstretched will be to cause the member thereabove to either wrinkle, bulge or convex upwardly and the member therebelow also to either wrinkle bulge or concave downwardly. In other words members will be bent wrinkled, bulged or creased in opposite directions and this must necessarily result in an effect which is other than that which was aimed at. In other words the problem presented by any arrangement in which are associated a facing and a forepart and a stiffening in which the stiffening is made so as to possess the desired degree of flexibility and resiliency, there are two elements which must accommodate themselves to the stiffening and to each other. This it will be appreciated complicates the problem and in the quantity production of garments where a single patterned garment must serve for different people, causes the garments to necessarily fall short of the desired aim.

In the manufacture of garments I have discovered that most, if not all, of the difficulties thus presented in the manufacture of that portion of the garment involving the shoulder and the parts immediately adjacent thereto are overcome if the facing and the stiffening support are so associated in the factors of flexibility, resiliency, etc. as to eliminate the facing as an individual factor in the solution of the problem.

I have found that the character of fit of a coat is determined to a great extent by the manner in which the coat hugs the wearer along the shoulder lines at the points where the neck merges into the shoulders and the extent to which the coat hangs as it were from these points predetermines to a great extent the character of fit.

Among the more important objects of my invention therefore are; the provision of a shoulder portion of a garment and of a method of constructing such shoulder portion whereby the garment is adapted to shape itself to the contours of the human

figure and to its variations; the provision of a shoulder of a garment and of a method of constructing such shoulder whereby the garment is in the desired association with the shoulder lines of the wearer and more particularly with those points thereon where the neck merges into such shoulder lines; the provision in a shoulder of the garment of such an association of a plurality of superposed parts thereof that one of them is eliminated as a practical factor in the shaping operation; the provision of the shoulder portion of a garment and of a method of constructing such shoulder portion whereby the supporting member is caused to accommodate itself to an outer member; the provision in the shoulder of a garment having a plurality of superposed layers of a method of so associating them as to cause two adjacent members to act as a unit for supporting and shaping the shoulder; the provision in a garment having a forepart, a facing, or a lining or both and an intermediate stiffening of so associating the stiffening with one of the other parts as to cause the two to act as a unit; the provision of a method of making the shoulder of a garment in which the facing or a lining or both and the stiffening are associated to form a unitary supporting and shaping construction; the provision of a method of constructing the shoulder of a garment whereby the intermediate supporting member is caused to shape and accommodate itself to the facing and (or) the lining; the provision in the shoulder of a garment having an outer member and an intermediate relatively rigid member of such an association thereof as to cause the two to expand and contract as a unit; the provision in a garment having a facing and a relatively rigid supporting member each being expansible to the same extent; the provision of a garment having a facing and a relatively rigid supporting member of an expansible insert for each; the provision of a garment having a facing and a relatively rigid supporting member of an expansible insert common to both; the provision of a garment having a facing and a relatively rigid supporting member of an expansible insert, the facing, the insert and the supporting member being joined as a unit; the provision of such an association of a facing a stiffening member, a lining or neck yoke and an insert as to produce a spring effect in the shoulder; the provision of a new and improved garment and of a method of constructing such garment.

It will be understood that all of the steps which I will hereinafter describe as employed by me in my method for making the garment and the specific embodiment of the garment which I have illustrated in the drawings and described in the specification have been so specifically illustrated and de-

scribed merely as a matter of convenience and that except as called for by the claims as herein allowed, the omission or addition of any steps or the change in the order thereof or any variation in the construction of the garment is to be construed as illustrative and not as limitative.

For the attainment of these objects and such other objects as will appear or be pointed out hereinafter, I have illustrated embodiments of garments employing my invention in the drawings wherein;

Figure 1 is a view in perspective looking from the front at a portion of the garment which corresponds to that portion which goes over the left shoulder and left breast with the parts in position they assume when on the figure or of the person wearing same;

Figure 2 is a plan of the left front and of the back positioned adjacent each other to show the manner of their association;

Figure 3 is a view of the portion of Figure 1 looking down thereon from the inside with the portion flattened out and with the collar in the plane of the garment;

Figure 4 is a section through the line 4-4 of Figure 3;

Figure 5 is a section taken on line 5-5 of Figure 3;

Figure 6 is a section through the insert taken at right angles to that of Figure 5;

Figures 7 and 8 are perspective views intended to illustrate one of the steps employed by me; and

Figure 9 shows another embodiment of my invention.

Upon viewing Figure 1 of the drawing, it will be observed that I here illustrate a garment which is more or less of the conventional type and is applied to the forepart or front of the garment which merges into the back, the two being joined by the shoulder seam 12 which extends from the armhole 13 to the base 14 of the collar 15. This collar 15 is joined to the coat lapel 16 by the seam 17 which seam also connects the collar 15 to the coat.

In addition I may here state that the shoulder of the garment is generally made up of a series of superposed layers of which the forepart 10 above referred to is the outermost layer and the facing 20 (see Figure 3) is the innermost layer and the stiffening 21 is in a position intermediate the two. (See Figure 4.) In the practical employment of my method to construct the new type of garment, the forepart 10 and the facing 20 and the canvas 21 are cut to the predetermined shape or design for purposes of assembly in the manner in which I will now describe.

The upper part of the facing 20 is of the shape and dimension shown in Figure 3 and the facing terminates along the lines indicated by the reference characters 25, 28, 30

and 31, the front part of the armhole 13 between the points 26 and 25 in the direction of the arrows the line 32 and by the lower edge of the coat (not shown). Any desired or preferred relatively rigid material such as canvas, or hair cloth or combinations thereof is employed as the intermediate member and corresponds in all substantial respects to the dimensions of the facing 20 which has just been described. The stiffening 21 is preferably though not necessarily first associated with the facing 20 in any preferred or desired manner as by sewing except that in my preferred method of operation the stiffening 21 and the facing 20 are left free along the line 31 (see Figure 3) the two forming in fact a unitary stiffening member in a manner that will now be pointed out.

The associated facing and stiffening is now attached to the forepart or front 10 along the coat edge 19 and the collar base (see Figure 1) and by bastings along the armhole 13 and is otherwise free thereof. This completes the skeleton of the garment.

I now make a slit 35 both in the stiffening and in the facing inwardly from the line 31 and at right angles thereto and of a predetermined depth and I preferably make this slit in both simultaneously and after they have been joined so that the slits may be not only the same in both but be in absolute superposed registry one with the other.

Upon viewing Figure 7 it will be observed that I have here attempted to show the slit 35 cut into both the stiffening 21 and the facing 20 with the parts so separated as to bring out this clearly. The slit 35 then divides the portion of both the stiffening 21 and the facing 20 into two lobes 36 and 37. I now apply pressure to the lobes 36 and 37 of both the stiffening and the facing in opposite directions as indicated by the arrows *a* and *b*, so as to force these lobes angularly with reference to each other and to produce a relatively large V shaped space 38 therebetween, it being understood that the parts are maintained in their superposed position of registry and that this action upon the superposed lobes of both the stiffening and the facing is identical, I now place directly upon the facing, a piece of flexible material 39 of a size sufficiently larger than the V shaped opening 38 so as to permit of its being sewed to the superposed lobes 36 and 37 of the facing and of the stiffening as by the rows of stitches indicated by the reference characters 40, 41, 42 and 43, these stitches thus serving to unite the stiffening facing, and flexible insert 39. The insert 39 thus limits the extent to which the lobes can be drawn apart.

I cut the facing, so that the line 31 is at an angle to both the warp and the woof of the material so that the lobes 36' and 37 can

be spaced and the material stretched in the direction of such line. The space formed between the lobes is such that there is created a tension at the base of the V space therebetween which tends to move the lobes 36 and 37 toward each other to decrease the distance across the V and thus shorten the line across the shoulders along 31.

I now attach to this associated facing and stiffening, the neck yoke 44 preferably by a row of stitches 45 along the line 31. This neck yoke 44 is preferably made of a readily stretchable material cut on a bias and when attached by the stitching 45 is preferably stretched. The insert 39, which is also preferably made of a readily yieldable flexible and resilient material such as lining material, is acted on, on the one hand by the aforementioned tension at the base of the V which tends to contract the V and by the neck yoke 44 which tends to expand the V and as a result out of these two, all the parts assume an intermediate position, as will also therefore the garment across the shoulder, with an action that is comparable to a spring effect or balance between the two opposing tendencies. This balance is such that a fullness is provided in both the neck yoke and at the insert in the shoulder.

It will be understood from the method thus described as employed by me that I have attained a novel association of the stiffening and the facing. It will be understood that in performing the spreading operation upon the lobes 36 and 37 to form the V shaped opening or space, the material of these lobes is forced in the direction of the clavicle thus providing an additional amount of material for the extended surface to be covered at that point and the opposite lobes will be forced in the direction of where the shoulder joins the neck, thus supplying an additional amount of material at this point also so as to permit of the hugging and close fitting action of this part of the garment upon the adjacent part of the neck.

I have attempted in Figure 2 to show the position of the insert with reference to the shoulder. It will be observed that it is substantially at that point on each shoulder which are considered the critical ones, because it is at these points that a well fitting garment will hug the neck. The desired hug at this point, is materially advanced toward attainment by the fact that the insert being of more yieldable material and having less body will tend to break downwardly thus creating the desired hug at the critical points and also the concavity across the shoulder line.

In this manner not only do I make provision for the complex curve extending across from the clavicle to the neck across the shoulder but also for the complex curve due to the variations along a section through

an intermediate portion of the shoulder and longitudinally of the body. The material 39 which I have secured over these openings and which may be made of any preferred or desired material which has the desired yield or flexibility, such as the lining material generally employed in a coat, serves not only to hold the lobes 36 and 37 from spreading beyond a predetermined maximum spread as already stated, but also permits of the lobes moving relatively inwardly and angularly towards each other as the various contours and dimensions change and shift.

From the description of my invention thus far given, it will be understood that instead of building up the stiffening so as to have the desired shaping flexibility and yield wholly in the stiffening and have the facing and the fore-part accommodate themselves accordingly to the accommodation thus created in the stiffening, in which case the superposed forepart and the underlying facing would both have to accommodate themselves to the variations in the stiffening to identically the same extent as otherwise, a wrinkled or misfit effect will be produced which is almost invariably the case, I have in the first place built up the stiffening so that it would accommodate itself to the desired shaping which I give the facing and in the second place by associating the facing and the stiffening as set forth above, they in fact become a unitary construction serving as the supporting member for the forepart, the flexibility, resiliency and variation in contour and dimension occurring in both as a unit, I have virtually eliminated the facing as a factor.

The associated facing, stiffening and neck yoke are free of the forepart at the shoulder seam, which permits a limited shifting relatively to the forepart as the aforementioned variations in dimensions and contours occur. This action is also assisted by the fact that the armhole is not closed until the insertion of the sleeve.

It will be understood that the slit 35 may be cut into the facing and stiffening and the insert 39 attached before the two are joined to the forepart, and it will also be understood that the attachment of the neck yoke and insert to each other and to the stiffening and facing may be made in one operation.

It will be understood of course that where a lining is employed to supplant the facing, either in part or in whole, the insert 39 may be equally well made in the lining or at a point along which the two are joined.

In Figure 9 I have illustrated another embodiment of my invention in which I employ separate inserts for the facing and stiffening, the reference character 61 and 62 being applied to the inserts which in all

respects may be of the character described in connection with the first embodiment. The neck yoke is shown in this figure as free of attachment to either the stiffening or the facing coterminous with the width of the insert, although it may be attached thereto for the full length of the line 31 as in the first embodiment.

It will also be understood that some of the broader phases of my invention will be served if the forepart instead of the facing is associated with the stiffening as hereinabove set forth as where only two layers are employed instead of three, with either the facing or the intermediate member omitted. It will be also understood that certain phases of my invention serve their purposes even when the insert is employed only with the lowermost member, or even with the outermost member as when the stiffening member of the facing is omitted, due to the particular position of the insert, its character of construction and its association in the assembled garment.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is—

1. In a coat shoulder, in combination, a forefront, a facing, and an intermediate stiffening member, the stiffening member and the facing having affixed thereto at the shoulder crest an insert of a material of a different degree of yieldability than that of the associated parts.

2. In a coat shoulder, in combination, a forefront, a facing and an intermediate stiffening member, the stiffening member and the forefront each having a space provided therein at the crest of the shoulder, said spaces being secured in registry, whereby the two can vary their dimensions or contours uniformly.

3. The method of fashioning the shoulder of a garment which includes the step or steps of slitting the facing and the intermediate stiffening layer inwardly from the edges forming the shoulder seam, forcing apart the walls of such slits, and then connecting the corresponding walls on the superposed layers so slitted by a flexible textile bridge.

4. The method of building up the shoulder of a garment of superposed layers which includes the step or steps of providing the facing and the intermediate stiffening layers each with a slit therein formed inwardly from the edge which forms the shoulder seam of the garment and while the walls of the slits are in registry forcing the material to both sides of said slits in opposite directions to form a substantially V shaped space in the layers and then attaching an insert to said walls.

5. The method of building up the shoulder of a garment of superposed layers which includes the step or steps of providing the

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facing and the intermediate stiffening layers each with a slit therein and of increasing the normal divergence between the walls of the slits, connecting said walls by a piece of material and then attaching a lining member to said associated parts while the walls are in their state of abnormal diver-

gence whereby when the walls of the slits return to their normal position, a fullness is produced in both the insert and the lining. 10
In testimony whereof I have hereunto signed my name.

WILLIAM SCHWARTZ.