

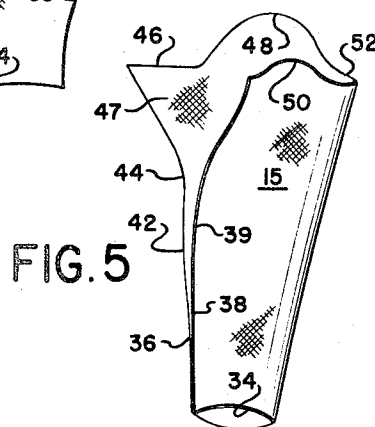
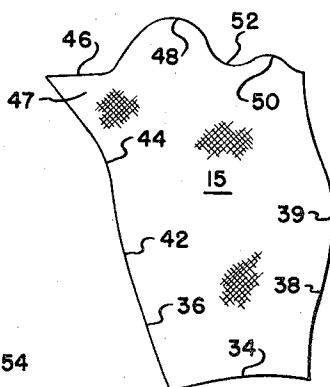
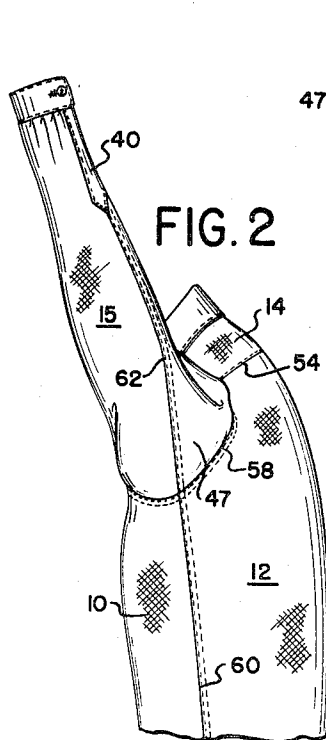
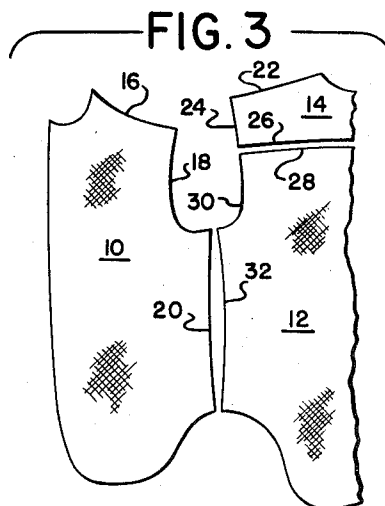
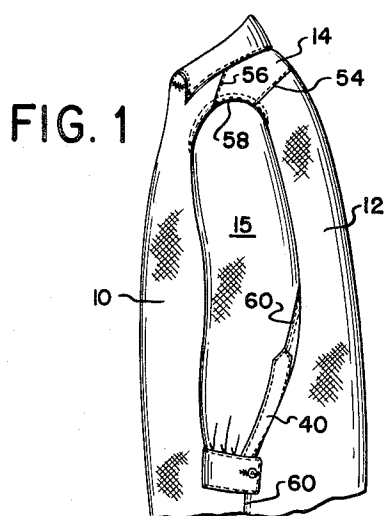
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2,943,330

GARMENT CONSTRUCTION PARTICULARLY DRESS SHIRTS

Filed April 9, 1959



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1

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GARMENT CONSTRUCTION PARTICULARLY
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4 Claims. (Cl. 2—125)

My present invention relates to improvements in shirts and shirt-type garments, more particularly to an improved garment sleeve construction adapted to cooperate in a novel manner with conventional shirt body structures, to provide a comfortable shirt-type garment or dress shirt having an appearance superior to that of corresponding garments now made in accordance with conventional patterns. My invention also includes an improved method of making shirt-type garments, more particularly dress shirts.

Dress shirts now made and sold by a number of large manufacturers are provided with sleeves which have a very poor appearance. In fact, they are called "Sloppy Joe" sleeves, which in normal hanging position, have breaks and folds in front and back around the shoulder and armpit section of the shirt. On the other hand, when the shirt is laid out flat on the counter and the sleeve extended out straight, it has a neat appearance and is free of folds. The appearance of shirt sleeves of this type is in distinct contrast to the appearance of the usual two-piece coat sleeve, where the coat has padded shoulders, since the sleeves hang smoothly from the shoulder. However, coat sleeves are so constructed that while they have a very neat appearance in the hanging position, the wearer cannot raise his arm without pulling up on the body of the coat. Conventional coat sleeves have a good appearance because of shoulder padding. Shirts, of course, are not padded and apparently no one has attempted to improve the appearance of shirt sleeves.

In view of the deficiencies and objections referred to above with respect to dress shirt sleeves, the primary object of the present invention is to provide a shirt or shirt-type garment, for example a dress shirt, with specially constructed sleeves having an appearance when the sleeves are hanging which is equivalent to that of the conventional two-piece coat sleeves of a shoulder padded coat.

A further object of the present invention is to provide a sleeve construction particularly adapted for dress shirts which will not only give a neat appearance to the shirt but which will cooperate with the body of the shirt to improve its overall appearance.

Another object of the present invention is to provide a novel sleeve construction which gives comfort to the wearer and which is coordinated with the construction of the body of the shirt to facilitate manufacture and reduce the cost of production.

In accordance with my invention, the improved construction comprises a shirt-type garment provided with a one-piece sleeve, the pattern form of which is cut so that the attachment end of the sleeve gives underarm freedom and is so shaped at the shoulder portion as to permit the sleeve to hang from the shoulder without folds or breaks. The sleeve pattern is cut so that a single seam extends along the placket from the cuff toward the back and then around to the armpit section of the sleeve. In this connection the placket is located in the usual position toward the back of the sleeve and is secured to one of the attachment edges. In this connection the sleeve pattern is arranged so that it is unnecessary, as in usual practice, to

2

slit the sleeve to insert the placket. The detailed shape and structure of the sleeve is described more in detail hereinafter.

Another important feature of the invention is that the improved sleeve is coordinated and combined with body sections in such a manner that the sleeve seam continues directly into the underarm seam of the body of the shirt construction. The improved construction, therefore, involves a minimum amount of sewing. Since the sleeve seam and the underarm body seam of the garment comprise a single continuous seam, time is also saved in the manufacture by sewing the sleeves to the body of the shirt while the sleeve is open and the shirt is open at the sides. After the sleeves are attached, a single long continuous seam is run through the body and sleeve, including the attachment of the placket to the upper part of the sleeve.

In accordance with the invention, it is possible to produce dress shirts having a very neat appearance because the sleeves hang straight without breaks and folds, without any padding in the shoulders as in the case of coat sleeves. Furthermore, the sleeve construction provides freedom of arm movement in the elbow and underarm portion, so that the wearer may raise his arms freely without pulling the body of the shirt out of position.

The improved construction of a shirt-type garment in accordance with my invention includes other features and advantages which are described more in detail hereinafter in connection with the drawings which show a single embodiment.

In the drawings:

Fig. 1 is a broken side elevational view of a shirt-type garment constructed in accordance with my invention, illustrated with the sleeve hanging naturally;

Fig. 2 is a broken view similar to that of Fig. 1 showing the garment construction of Fig. 1 with one of the sleeves in raised position;

Fig. 3 is a pattern-type view showing the shape or structure of the body elements or sections of the shirt-type garment construction shown in Figs. 1 and 2;

Fig. 4 is a folded-out or flat pattern-type view showing the configuration of the pattern for making the sleeve shown in Figs. 1 and 2; and

Fig. 5 is a perspective view of the cut-out sleeve material shown in Fig. 4, rolled or folded to bring portions of the longitudinal edges adjacent each other.

Referring to the drawings, Fig. 1 shows the improved shirt construction, particularly illustrating the dressy smooth appearance of the sleeve when hanging naturally. Fig. 2 shows the same shirt with the sleeve raised high and the fact that the body of the shirt is not pulled or tugged away from its normal position. As shown in these figures of the drawings, the improved shirt construction comprises a body portion including two similar front sections 10, a back section 12 and a yoke 14. The shirt includes two sleeves 15, only one of which is shown. The body sections of the shirt construction are of conventional pattern form, and the shirt as shown in Figs. 1 and 2, includes a conventional dress collar and conventional cuffs.

Fig. 3 shows the pattern shapes or structures of the body sections of the shirt in which only one front section 10 is shown, while the back panel section 12 and yoke 14 are broken away so that only about half of each are shown. Each front section includes a shoulder edge 16, an armhole edge 18 and a side edge 20. The yoke section 14 includes a shoulder edge 22, an armhole edge 24 and a lower edge 26. The back panel section includes an upper edge 28, to be sewed to the bottom edge 26 of the yoke, an armhole edge 30 at each side and two side edges 32, only one of which is shown adjacent the edge 20.

The one-piece sleeve structure for the sleeve 15 ac-

3

cording to the invention is illustrated in Figs. 4 and 5. Fig. 4 shows the structure and shape of the sleeve in pattern form when the material of the sleeve is laid out flat. This structure includes a lower convexly curved edge 34 to which the cuff is eventually attached, and opposite longitudinal edges 36 and 38 which are eventually sewed together from the top to the position of the placket 40, as indicated in Figs. 1 and 2. The edge 38 is bowed out at the position of the elbow with a substantially convex bow at 39, while the edge 36 is bowed out in a similar manner but to a somewhat less extent. The edge 36 from the position of the convex bow at the point 42 extends upwardly at a slight outward incline to a point 44 and then turns rather abruptly outwardly to the top of the sleeve where it makes an acute angle with the attachment edge 46 of the sleeve. From the upper end of the edge 36, the attachment edge 46 extends horizontally in for a short distance, so as to form a pointed corner section 47 with the edge 36. From the horizontal section, the attachment edge 46 includes an extensive convex bow at 48 which connects with a second smaller convex bow at 50, thereby forming a concave valley at 52. At the right the convex bow 50 of the edge 46 terminates at the upper end of the longitudinal edge 38, at about the same level as the horizontal section at the opposite side of the pattern-shaped structure.

The provision of the deep convex curve at 48 along the attachment end of the sleeve provides a structure such that the sleeve 15 will hang naturally in the manner shown in Fig. 1, without breaks or folds either in front or in back, while the extra allowance provided by the convex extension 50 permits the sleeve to be raised in the manner shown in Fig. 2 without applying any stress or pull on the body portion of the shirt. The convex curved edge at 48 is located at the shoulder of the shirt, whereas the convex edge portion at 50 is located in the lower portion of the armhole edge 18 in the front section 10 of the shirt.

Fig. 5 shows the approximate relationship of the convex edge parts at 48 and 50 when the sleeve is folded or rolled. Since the convex edge at 48 is attached to the lower portion of the armhole edge 18, the pointed section 47 will be located at the back of the shirt with the horizontal part of the attachment edge 46 attached to the armhole edge 30, so that the point coincides with the juncture of the edges 30 and 32 of the back section 12. The convex, bowed edges at 39 and 42, are located at the elbow section of the sleeve 15, provide a barrel-shaped structure when rolled, and also provide for extra elbow room in the shirt, as indicated in Figs. 1 and 2, when compared with conventional straight tapered sleeve patterns.

In making up the shirt construction shown in Figs. 1 and 2 from the cut-out pattern-shaped fabric sections of Figs. 3, 4 and 5 in accordance with the preferred process the steps or operations are preferably carried out in a particular sequence in order to sew up the shirt in a minimum of time. The pattern shapes as described above, are so arranged that practically all, if not all, of the seams may be made with a double needle machine. In accordance with the invention, the yoke 14 is joined to the back section 12 by a seam 54 and the respective edges 22 of the yoke are respectively stitched to the edges 16 of the front sections 10 by seams 56 at the respective shoulder portions of the shirt. The sequence of these steps may be reversed and while a yoke is preferred, the back section 12 may integrally include the material of the yoke. The first step is, therefore, to sew the body sections of the shirt together at the top, while leaving the sides open. In the next steps, each of the sleeves 15, while open, is sewed to the open shirt body with a double needle machine by a seam 58. In this operation the attachment edge 46 of the sleeve is sewed to the combined armhole edge provided by the edge sections 18, 24 and 30. The open sleeve is oriented

4

so that the point at 47 is located at the back and coincides with the juncture of the edges 30 and 32, while the corner at the top of the edge 38 is brought into coincidence with the juncture of the edges 18 and 20. Both sleeves of the shirt are secured to the body in this manner with the sleeves open lengthwise and the body portion of the shirt open at each side.

The next step in the operation is to close each side of the shirt and sleeve with a single continuous seam 60 extending from the side of the shirt at the bottom joining edges 20 and 32, and continuing through the sleeve joining edges 36 and 38 to the position of the top of the placket 40 where the seam turns slightly and runs along the edge 36 and the placket to the end of the sleeve material, to stitch the placket to the edge 36. The incidental features of making the collar and cuffs and sewing them to the shirt are carried out afterward along with the finishing of the front of the shirt in the usual manner with the front opening provided with buttons and button holes.

When the elements of the shirt are sewed together in the manner described above, considerable saving of time results because of the use of a double needle machine, the sewing of the body sections together at the top with the sides open, the attachment of the open sleeves to the open body and finally the closing of the body and sleeve at each side with a single seam which also secures the sleeve placket to one edge of the sleeve. While the sleeve pattern is cut to provide the advantageous features described above, it is also coordinated with the body pattern, so that the side seam through the body of the garment extends as a single seam through the sleeve. For example, it will be noted that the section 47 of the sleeve is so cut that the seam 60 extends from the under part of the sleeve, as shown in Fig. 1, to an obtuse bend at 62 and then on along the sleeve to the top of the placket 40. This portion of the seam 60 extending through the sleeve, as shown in Fig. 1, extends around the back of the sleeve to the point of the placket 40. A part of the bend of the seam is shown in Fig. 2, and it will be noted that the seam extends approximately around the elbow to the placket. The structure which provides this arrangement is probably illustrated best in Fig. 5 by reference to the upper portions of the longitudinal edges 36 and 38. The upper portions of these edges are cut so that their upper ends coincide with the position of the side seam at the armpit, connecting the body sections 10 and 12. The curving of the seam 60 in spiral form around the sleeve 15 is also indicated by the full-line and dotted-line showing of the seam in Fig. 1. Fig. 2 also shows the longitudinal sleeve part of the seam 60 extending in the manner described above.

The sleeve structure, as shown in Fig. 4, the edges 36 and 38 of which are bowed out at the elbow position, is substantially wider at the top than at any other position along the sleeve. When the sleeve is folded or rolled as in Fig. 5, the upper end of the edge 38 extends inwardly as shown, while the angular-shaped section 47, when folded around would overlap back on the main portion of the sleeve so that the upper end of the edge 36 follows the upper end of the edge 38.

The phrase "one-piece sleeve" in the specification and claims, is used in contrast to the conventional "two-piece sleeve," known in the trade as including a top sleeve and a bottom sleeve, but is intended to include a "pieced" one-piece sleeve as understood in the trade. Some shirt manufacturers in making the shirt according to the present invention may wish to "piece" the "one-piece sleeve" because of the irregularities in the pattern shape, such as the section 47, in order to save material. Sometimes it is possible to cut the main part of a sleeve straight from one part of the yard goods and the remaining fraction of the pattern shape from another part and then sew them together to make the "pieced" "one-piece sleeve" as known in the trade. It is, therefore, to be understood that the phrase "one-piece sleeve" as used in the specification is

5

intended to cover a sleeve made of a single piece of material or a "pieced" "one-piece sleeve."

It is to be understood that some changes may be made in the shirt-type garment without departing from the spirit and scope of the invention. For example, in the disclosure and claims, the back section of the garment may be regarded as including the yoke.

The shirts or shirt-type garments constructed from the improved sleeve construction coordinated with the body structure of the shirt provide an attractive and well-fitting shirt-type garment, particularly adapted for dress wear. The shirt-type garment is advantageously made of woven fabric shirt materials, such as cotton, broadcloth, silk, nylon, Dacron and mixtures of any of these materials.

I claim:

1. In a shirt-type garment construction including a body portion having a back section of fabric material, front sections of fabric material extending from the front respectively to the sides of the garment and respectively joined together and respectively secured in armholes and sleeves of fabric material having longitudinal edges joined together and respectively secured in the armholes in the body portion, the improvement comprising a single seam extending along the back portion of the lower part of each sleeve then inwardly along the underside of the sleeve to the armhole edge of the sleeve at the armpit of the garment and downwardly along the side of the garment, said single seam joining one of the longitudinal edges of the sleeve to the other longitudinal edge of the sleeve and joining the front and back sections of the garment together at the side of the garment from its armpit section down, said one-piece sleeve when laid out flat in pattern form having an irregularly-shaped attachment end edge including a convex curved portion substantially inwardly from the upper ends of both longitudinal edges of the sleeve, the attachment edge at one side of said convex curved portion extending substantially horizontally and meeting the longitudinal edge adjacent the back portion of the sleeve at an acute angle, the portion of the attachment edge extending from the other side of said convex curved portion including an adjacent concave curve merging into a convex curve extending to the other longitudinal edge, said longitudinal edge adjacent the back portion of the sleeve extending abruptly inwardly from the attachment edge then curving to provide a convex curve at the elbow part of the sleeve and finally extending from the convex curve in a substantially straight line to the free end edge of the sleeve, said other longitudinal edge including a substantially symmetrical convex bow with its center at the elbow part of the sleeve.

2. In a shirt-type garment construction, a sleeve which when laid out flat in pattern form has an irregularly-shaped attachment end edge including a deep convex curved portion located substantially inwardly from the upper ends of both longitudinal edges of the sleeve, the attachment edge at one side of said convex curved portion extending substantially horizontally and meeting the lon-

6

gitudinal edge bordering the back portion of the sleeve at the top part of the sleeve at an acute angle, the portion of the attachment edge extending from the other side of said deep convex curved portion meeting the other longitudinal edge bordering the front under part of the sleeve at an obtuse angle, said longitudinal edge bordering the back portion of the sleeve extending inwardly from the substantially horizontal portion of the attachment edge at an acute angle and then curving to provide a convex curve at the elbow part of the sleeve and finally extending in a substantially straight line to the free end edge of the sleeve, said other longitudinal edge of the front under part of the sleeve extending outwardly from the attachment edge.

3. In a shirt-type garment construction including a body portion having a back section of fabric material, front sections of fabric material extending from the front respectively to the sides of the garment and respectively joined to the back section at the sides of the garment, and sleeves of fabric material having longitudinal edges joined together and respectively secured in armholes in the body portion, the improvement in which each of the sleeves includes a placket at its lower end at the back of the sleeve, and a single seam joining the longitudinal edges of the sleeve from the position of the placket to the body portion of the garment, said seam extending along the back portion of the lower part of the sleeve from the placket then around to the underside of the sleeve to the armhole edge of the sleeves at the armpit of the garment and finally downwardly along the side of the garment, said single seam also joining the placket to one longitudinal edge of the sleeve and joining the front and back sections of the garment together at the side of the garment from its armpit section down.

4. A shirt-type garment construction as claimed in claim 3, in which each sleeve of fabric material when laid out flat in pattern form includes two longitudinal edges to be sewed together when the sleeve is closed, said edges presenting gentle convex curves located at the elbow position of the sleeve, the upper portion of the longitudinal edge along the front under portion of the sleeve continuing inwardly from said elbow position toward the attachment edge of the sleeve while the upper portion of the other longitudinal edge continues outwardly from the upper part of the convex curve thereof to a point at the attachment edge of the sleeve.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,943,330

July 5, 1960

Joseph Clyne

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 5, line 20, strike out "together and respectively secured in armholes" and insert instead -- to the back section at the sides of the garment, --; column 5, line 22, strike out "the".

Signed and sealed this 4th day of April 1961.

(SEAL)

Attest: ERNEST W. SWIDER

~~XXXXXXXXXX~~
Attesting Officer

ARTHUR W. CROCKER
Acting Commissioner of Patents