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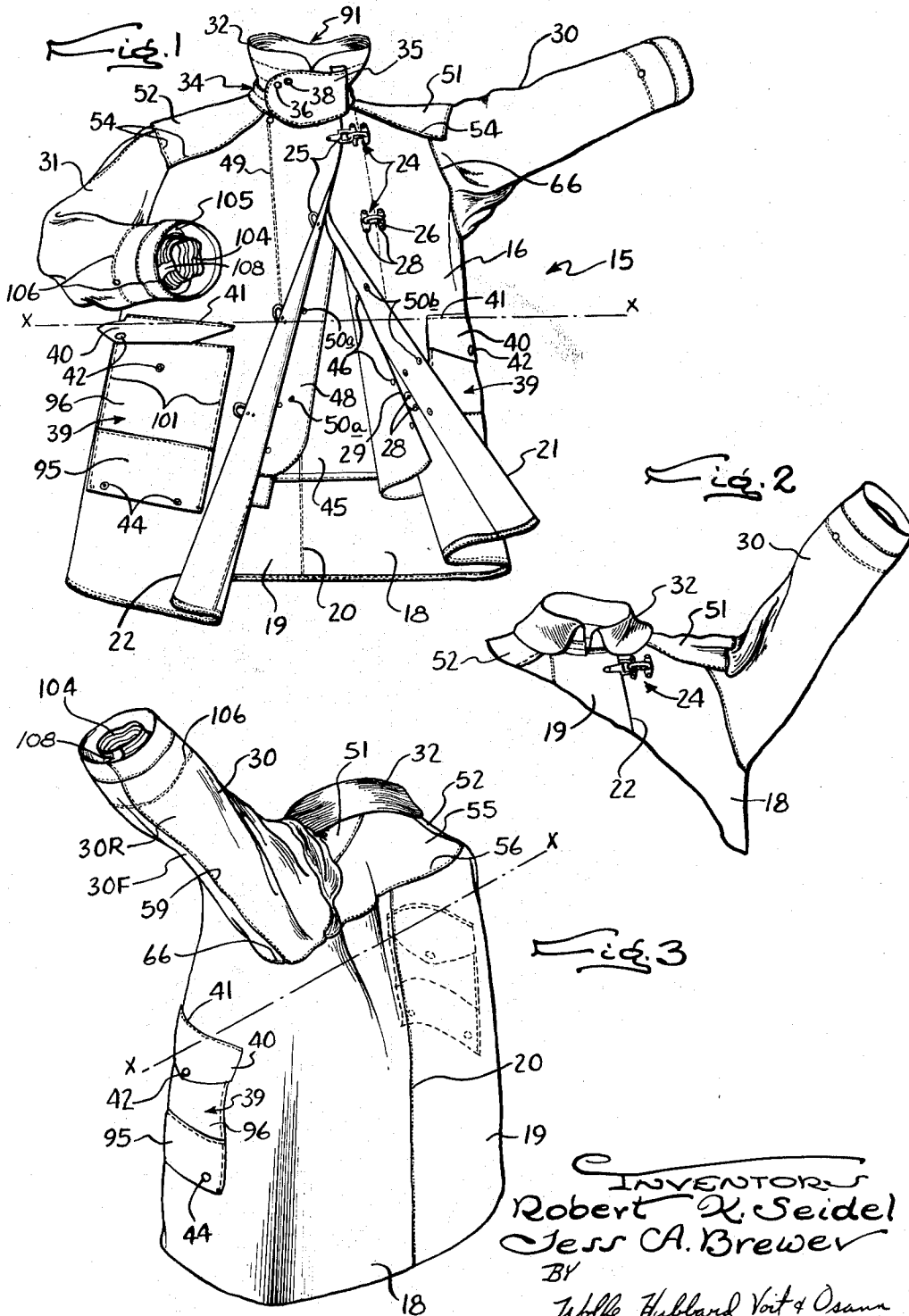
R. K. SEIDEL ETAL

3,231,899

GARMENT CONSTRUCTION

Filed Oct. 31, 1962

2 Sheets-Sheet 1



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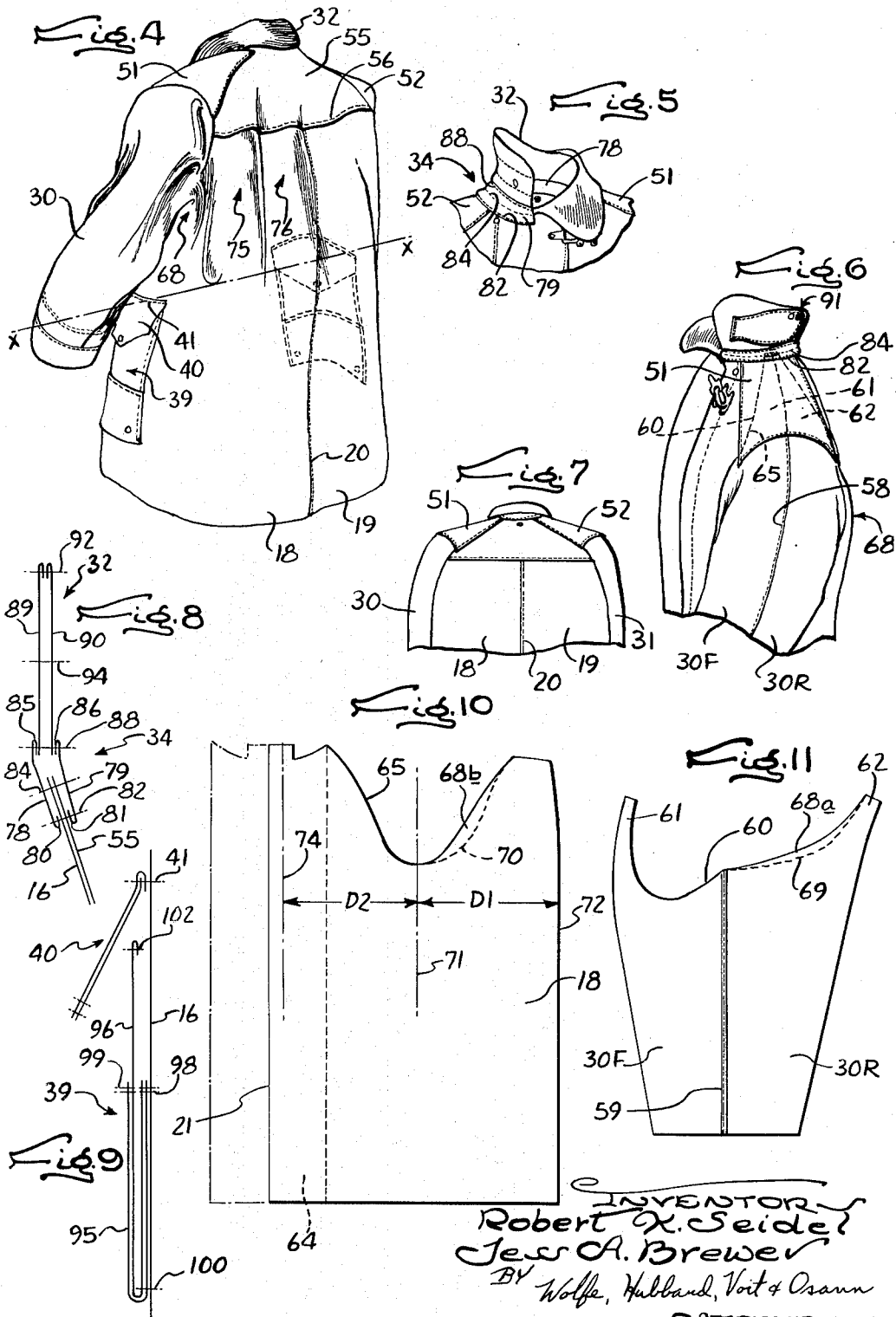
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GARMENT CONSTRUCTION

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The present invention relates generally to garments and, more particularly to protective garments and to an improved construction therefor. In its principal aspects, the invention is concerned with items of protective apparel such, for example, as a fireman's coat, or similar types of protective outer garments which must withstand hard usage, yet which must be capable of permitting physical exertion by the wearer.

For a number of years there has been a persistent and increasing demand for items of protective wearing apparel which are durable, suitable for their intended use, and yet which are comfortable and will not interfere with the work or other activities in which the wearer is engaged. These requirements have not been confined to protective garments for industrial uses, or other special uses, but rather have involved virtually the entire garment industry. However, the foregoing requirements are particularly important to persons engaged in work requiring great physical dexterity in hazardous duty locations. In such locations and for such work, it is essential that the individual have complete freedom of arm and body movement, while at the same time his person must be protected by clothing which will withstand rough wear and handling.

Many efforts have been made to provide protective clothing which will meet the stringent demands not only of those engaged in such special and hazardous work, but also those of the general public. The problem of providing freedom of arm and body movement has been a particularly troublesome one and has led to the design and use of garments employing a "bellows" construction in the underarm area. Heretofore, this has been accomplished in various ways as, for example, by building in extra material in either the underarm sleeve portion or in the body of the garment at the junction to the underarm portion of the sleeve. Alternate constructions have included the provision of gussets or other types of inserts which are positioned in the underarm area. In effect, each of these constructions provides extra material at the armpit, which material bunches or forms an accordion-type pleat. However, such bunching or pleating causes binding under the arm, with consequent restriction of both arm and body movement, and discomfort for the wearer. As a result, the aforementioned garment constructions have not proved satisfactory.

Yet when such constructions are not employed, the wearer does not have freedom of arm and body movement. For example, if such gussets or the like are not provided, when the wearer raises his arm the body of the garment will rise and be otherwise distorted. That is, the wearer will have to lift part of the weight of the garment with his arms, thus leading to muscular fatigue. And, of course, if heavy tools, such as spanner wrenches or the like, are carried in the pockets of the garment, the wearer will have to lift such tools each time that he raises his arm. Moreover, each time that the garment is distorted, the seams are subjected to strains which cause weakening and tearing.

It is a general aim of the present invention to provide an improved outer garment or coat construction which overcomes all of the foregoing disadvantages and which is characterized by the fact that the entire load is carried on the wearer's shoulders, thus permitting complete free-

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dom of arm and body movement. While not so limited in its application, the present invention will find especially advantageous use in the construction of firemen's coats and similar special purpose garments where the wearer is required to perform, with rapidity and comparative ease, feats requiring physical dexterity.

A related object of the invention is to provide a sleeved coat which, while it does not include gussets or extra material in the underarm area, nonetheless permits of "free-wheeling" arm movement and wherein the coat rests on the wearer's shoulders even when his arms are raised, thus insuring that the body of the coat is not distorted. As a consequence of attaining this objective, no excess strains or loads are carried by either the seams of the coat or the arm muscles of the wearer, thus prolonging the life expectancy of the coat and preventing muscular fatigue.

It is a further object of the invention to provide a coat or outer garment which permits of freedom of arm and body movement, yet which is free of binding or bunching in the underarm area and is therefore, considerably more comfortable when worn than coat constructions used heretofore.

In another of its important aspects, it is an object of the invention to provide an improved coat construction which is neat in appearance and fits snugly against the wearer's chest irrespective of whether the wearer is standing upright or bending over. In this connection, an object of the invention is to provide a coat which is void of bulky material in the chest or in the area at the front of the arm, thus minimizing the danger of accidentally catching the coat and its fasteners on surrounding equipment.

Still another object of the invention is to provide a coat body and sleeve construction having freedom of arm and body movement, yet which permits of ease and rapidity in assembly thereof since it employs relatively few component panels.

An ancillary object of the invention is to provide an improved protective coat construction which, because it uses relatively few panels, requires fewer seams and stitching, and is, therefore, characterized by its durability.

More specifically, it is an object of the invention to provide a protective coat employing raglan-type sleeves which permit freedom of movement, and a two-piece body construction having only a single seam located in the back of the coat, thus eliminating the danger of frictional wear of side seams as a consequence of arm movement.

It is a more detailed object of the invention to provide an improved pocket construction for protective garments which is stronger than prior constructions, and, therefore, more durable.

Still another object of the invention is to provide a protective outer garment having a snug and form-fitting neckband construction which does not tend to roll or bind across the back of the neck and is, therefore, more comfortable for the wearer.

Other objects and advantages of the invention will become apparent as the following description proceeds, taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is a front elevational view of a garment embodying the features of the present invention, here shown with the front of the coat partially open and with the left sleeve raised to a substantially horizontal position;

FIG. 2 is a fragmentary front elevation similar to FIG. 1, here illustrating the left shoulder and sleeve area of the coat with the sleeve elevated above the shoulder level;

FIG. 3 is a perspective view illustrating particularly the left rear quarter of the coat with the sleeve in a position similar to that shown in FIG. 2;

FIG. 4 is a perspective view similar to FIG. 3, here

shown with the left arm at the side and illustrating particularly the fullness of the coat across the back;

FIG. 5 is a fragmentary front elevation illustrating the exterior portions of the collar and neckband assembly;

FIG. 6 is a fragmentary side elevation, here showing the raglan sleeve construction in broken lines;

FIG. 7 is a fragmentary rear elevation on a reduced scale and illustrating the yoke and single seam construction of the coat shown in FIG. 1;

FIG. 8 is an enlarged diagrammatic representation showing the details of the neckband assembly used with coats made in accordance with the invention;

FIG. 9 is a view similar to FIG. 8 illustrating the reinforced pocket construction used with the coat shown in FIG. 1;

FIG. 10 is a view of a single body panel, with the panel shown in outline or pattern form; and,

FIG. 11 is a view similar to FIG. 10 of the two sleeve panels in partially assembled form.

While the invention is susceptible of various modifications and alternative forms, a specific embodiment thereof has been shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that it is not intended to limit the invention to the particular form disclosed, but, on the contrary, the intention is to cover all modifications, equivalents and alternatives falling within the spirit and scope of the invention as expressed in the appended claims.

Referring more specifically to FIG. 1, an exemplary protective outer garment or coat, generally indicated at 15, is illustrated. As the ensuing description proceeds, it will become apparent that the novel features of the present invention will find use with a wide variety of garments such, for example, as industrial protective clothing, special protective clothing for use in hazardous locations, or with coats and jackets used routinely by the general public for business, pleasure, or lounging. However, to make clear one environment in which the features of the invention will find especially advantageous use, the invention is here illustrated and described in connection with a fireman's coat.

Upon inspection of FIG. 1, it will be observed that the exemplary coat 15 there shown includes a body portion 16 having left and right body panels 18 and 19 respectively which are joined together, as by a vertical line of stitching 20, at the rear of the coat. The front edges 21, 22 of the panels 18, 19, respectively, overlap and the panels are separably secured together by clasps generally indicated at 24. The clasps may, of course, take a variety of forms, however, they preferably comprise a series of closed rings 25 spaced vertically along the face edge of one panel (here the edge of panel 19), and a mating series of snap-type closure hooks 26 spaced vertically along the outer surface of the other body panel (here body panel 18), the hooks 26 being located laterally of the edge 21 of panel 18. The rings 25 and hooks 26 are secured to the outer surface of the body 16 by suitable fasteners, for example, rivets 28 which extend through the material. Additional strength may be imparted to the garment closure means if desired by providing leather reinforcements 29 on the inner surface of the coat through which the rivets 28 extend.

The exemplary coat 15 is provided with left and right sleeves 30 and 31 which are respectively secured to the body panels 18 and 19. A collar 32 is provided, the collar being secured to the body 16 by means of a reinforced neckband assembly, generally indicated at 34. For the purpose of providing protection at the throat area when the collar 32 is up as shown in FIG. 1, a protective flap 35 is secured adjacent one end to the under surface of the collar. In use, the protective flap 35 is wrapped around the throat and secured to the opposite side of the collar 32, for example, by a separable snap closure 36. A second snap closure 38 is provided for the purpose of securing the protective flap 35 to the under surface of

the collar 32 on one side of the throat (FIG. 6) when the flap is not in use—for example, when the collar 32 is folded down as shown in FIG. 2.

The coat 15 is also provided with oversize pockets 39 which are secured to the outer surfaces of the body panels 18, 19 and which are suitable for reception of the heavy tools generally used by firemen such, for example, as spanner wrenches or the like. The pockets 39 are closed by means of pocket flaps 40 which are stitched to the body 16 of the coat as shown at 41. In keeping with the environmental use to which firemen's coats are put, the pocket flaps 40 are enlarged so as to minimize the danger of the flaps slipping into the pocket, a situation which leads to loss of valuable equipment and entry of water into the pocket. Snap-type closures 42 are provided for securing the flaps 40 in a closed condition. In order to provide adequate pocket drainage, eyelets 44 are formed in the lower portions of the pockets 39.

Provision is also made for insuring additional protection for the wearer from heat, cold, fire, water or the like. To this end, the coat 15 includes a liner 45 which may be removably secured to the inner surfaces of the garment, for example, by snap-type fasteners 46. Moreover, the exemplary coat 15 is also provided with a protective storm flap 48 which is here secured to the inner surface of body panel 19 by means of stitching 49. A plurality of snap fasteners are utilized to separably secure the storm flap 48 to the inner surface of the opposite body panel 18. As here shown, this is accomplished by providing a series of vertically spaced snap closure members 50a on the outer surface of the flap 48 and a mating series of vertically spaced snap closure members 50b on the inner surface of the body panel 18. The arrangement is such that when the coat is put on, the wearer will interpose the edge 21 of panel 18 between the edge 22 of panel 19 and the storm flap 48, and couple the mating snap closure members 50a, 50b. The edge 22 of panel 19 is then in position to secure the coat clasps 24, thus providing a separable three-ply closure down the front of the coat.

In carrying out the present invention, provision is made for reinforcing the shoulder and shoulder blade areas of the coat 15. To this end a pair of generally trapezoidal shoulder caps 51, 52 are respectively secured to the body panels 18, 19 by stitching 54 (FIGS. 1 and 7) and positioned to overlie the entire shoulder area including the uppermost ends of the sleeves 30, 31 (as best shown in FIG. 6 where the upper end of the raglan sleeve 30 is illustrated). In like manner, a yoke 55 (FIGS. 3 and 7) is secured to the back of the coat in position to overlie the shoulder blade, the securing means here comprising a row of stitching 56 extending across the lower edge of the yoke and the rearmost portions of the shoulder cap stitching 54. Both the shoulder caps 51, 52 and the yoke 55 are anchored at their upper ends by the neckband assembly 34. Thus, it will be evident that the shoulder caps 51, 52 and yoke 55 provide a double thickness of material overlying the shoulder and shoulder blade areas of the coat. This double thickness of material not only serves to reinforce the coat against wear resulting for example, from carrying ladders or other loads, but moreover, it serves to pad the shoulder when heavy items are carried thereon, thus minimizing discomfort.

Garments made in accordance with the features of the present invention may be fabricated from a wide range of materials, and it will be appreciated that such materials are not critical to the present invention, but rather will be selected to suit the particular use to which the garment is to be put. Merely by way of example, the exemplary fireman's coat 15 is preferably made of a moisture repellant material such as duck, rubber, rubberized material, or similar natural or synthetic materials. The removable liner 45 may be made of a wool or similar materials and preferably includes a rubberized or plastic

barrier coating (not shown) to protect against moisture, or moisture and flames.

In keeping with one of the important aspects of the present invention, provision is made for forming an articulated sleeve and body construction which permits of "free-wheeling" arm movement without causing distortion of the body 16 of the coat and wherein the coat continues to rest on the shoulders even when the wearer's arms are raised, yet wherein the underarm area of the coat is not subjected to uncomfortable bunching of material or to an accordion pleating effect. In the exemplary coat construction, and as best illustrated by reference to FIGS. 4 and 6 conjointly, this is accomplished by designing the coat to fit snugly against the wearer's chest, while at the same time providing for fullness across the back, particularly in the regions at the rear of the armpits. Since the left and right hand sides of the coat 15 are symmetrical, it will suffice for an understanding of the present invention to describe only one side construction, for example, the left side of the coat, it being understood that such description is also applicable to the opposite side.

In carrying out the present invention, the sleeve 30 is formed from a front piece 30F and a rear piece 30R which are seamed together as by stitching 53 along their upper edges (FIG. 6) and by stitching 59 along their lower edges (FIG. 3). Referring to FIG. 11, it will be noted that the sleeve pieces 30F, 30R, when laid flat with the bottom seam 59 formed, are cut away so as to delineate a generally half-bell shaped marginal edge 60 having a pair of tab portions 61, 62. The body panel 18 (FIG. 10) is generally rectangular in configuration with the left edge thereof folded over upon itself to define a hem 64 (FIG. 1). The upper edge of the panel 18 is cut away to delineate a generally U-shaped marginal edge 65 having outwardly and upwardly flared sides—the marginal edge 65 here defining the armhole for the coat.

In assembly of the coat, the marginal edge 60 of the sleeve pieces 30F, 30R is joined to the marginal edge 65 of the body panel as by stitching 66 (FIGS. 1 and 3), thus forming an articulated body and sleeve assembly. The opposed edges of the sleeve pieces are also seamed together at 58 so that the tab portions 61, 62 abut one another and overlies the shoulder, as best illustrated in FIG. 6. The completed articulated body and sleeve construction is of the type generally referred to as a raglan sleeve.

For the purpose of providing fullness at the rear of the armpit, thus permitting freedom of arm and body movement without distortion of the body 16 of the coat, while at the same time insuring that the underarm area of the coat is void of extra material that would tend to bunch or accordion pleat when the arm is lowered, the rear arm piece 30R is cut to provide an integral piece of extra material, represented in FIG. 11 by the area of material 68a bounded by the marginal edge 60 and the broken line 69. In like manner, the body panel 18 (FIG. 10) is cut to define an integral piece of extra material 68b bounded by the marginal edge 65 and the broken line 70. It will be noted that both pieces of extra material are disposed rearwardly of the base of the armhole—thus in FIG. 11 the piece 68a is disposed rearwardly of the bottom seam 59 of the sleeve 30, and in FIG. 10 the piece 68b is disposed rearwardly of the centerline 71 of the armhole.

As a consequence of the foregoing construction, when the body panel 18 and sleeve pieces 30F, 30R are assembled, the integral pieces of extra material 68a, 68b form an allowance of extra material, generally indicated at 68 in FIGS. 4 and 6, which is disposed rearwardly of the armpit. Since the fullness projects to the rear, there is no binding, pleating, or bunching under the arm which might tend to cause frictional wear or discomfort when the arm is positioned as shown in FIG. 4.

As the sleeve is progressively raised from the position

shown in FIG. 4, through the position shown in FIG. 1, to the position shown in FIGS. 2 and 3, the fullness or allowance of extra material 68 will accommodate such movement so that the body 16 of the coat remains undistorted and the coat 15 continues to rest on the shoulders. This is made evident by reference to FIGS. 1, 3 and 4 where it will be observed that the seams 41 of the left and right pocket flaps 40 remain in substantially the same plane (diagrammatically represented by the line $x-x$) irrespective of the arm position. Therefore, since the coat 15 is not distorted and continues to rest on and be supported by the shoulders, the wearer will have complete freedom of arm movement, and his arm muscles will not be subjected to excessive strains occasioned by having to lift the coat, and tools carried therein, each time that he raises his arms. Moreover, the seams of the coat 15 are also relieved of strains which normally result from distortion of the coat, thus substantially prolonging the life of the coat. And, of course, since movement of the arms does not distort the body of the coat or lift it off the shoulders, there is no tendency, even when the arms are fully raised, to shift the protective throat flap 35 (FIG. 1) upwardly, and therefore, the flap 35 will not choke the wearer or cause discomfort.

In furtherance of the principle objective of the invention, provision is made for providing still greater fullness across the back of the coat 15 while maintaining the front of the coat in snug conformity with the wearer's chest. To this end and as best illustrated in FIG. 10, the armhole (as delineated by marginal edge 65) is approximately centered relative to the body panel 18. As here shown, the centerline 71 of the armhole is spaced a distance D1 from the rear edge 72 of the panel, it being understood that the rear edge 72 is adapted to be stitched to the corresponding edge of the body panel 19 to form the rear seam 20 (FIGS. 1 and 3). It will be appreciated that, since the panels 18, 19 overlap at the front when the garment is worn (FIG. 1) the front centerline of the garment is actually displaced slightly from the panel edge 21 (to the right as viewed in FIG. 10). The actual front centerline of the garment when worn is here represented by the line 74, which line is displaced from the centerline 71 of the armhole by a distance D2. Preferably, the dimensions D1, D2 are selected such that D1 is equal to or approximately equal to D2.

Keeping the foregoing dimensional relationships in mind, it will be realized that when the garment 15 is assembled, the amount of material extending from the centerline 71 of the armhole around the back of the garment to the corresponding centerline for the right sleeve armhole (not shown) will be approximately 2D1. Similarly, the material extending from armhole to armhole about the front of the garment will have a dimension or breadth of 2D2. However, since D1 is equal or approximately equal to D2, then 2D1 is equal or approximately equal to 2D2. Stated another way, the breadth of material surrounding the wearer's back from armpit to armpit will be approximately equal to the breadth of material surrounding the wearer's chest from armpit to armpit. Thus, garments made in accordance with the present invention may be contrasted to garments made heretofore, such prior garments having been tailored to conform to the dimensions of the normal human torso where the distance from armpit to armpit about the back of the torso is considerably less than the distance from armpit to armpit about the more expansive chest area. That is, in garments made heretofore the dimension 2D2 (i.e., the breadth about the chest) has generally been considerably greater than the dimension 2D1 (i.e., the breadth about the back) so as to accommodate the chest.

Pursuant to the features of the present invention however, the dimension 2D2 is made approximately equal to the dimension 2D1 as hereinabove described and, if desired, may even be made less than the dimension 2D1. For this reason, and as best seen by reference to FIGS.

4 and 6 conjointly, garments such as the coat 15 lie flat against the wearer's chest (FIG. 6) without presenting any bulky or bulging material in the front portion of the garment that might otherwise tend to catch on surrounding equipment. At the same time, the coat 15 is provided with fullness, represented generally at 75, 76 in FIG. 4, across the back. This fullness contributes to the effect created by the allowance of extra material 68, thus further promoting freedom of unrestricted arm and body movement. Moreover, even when the wearer bends forward at the waist, the front of the garment will remain snugly against the chest with the fullness of material shown at 68, 75 and 76 accommodating such bending movement.

It will be appreciated, therefore, that the coat 15 is not only considerably more comfortable and less fatiguing to the wearer than more conventional coats, but it is also considerably safer and presents less risk of bodily harm for the wearer. This advantage is of particular importance in the field of industrial protective clothing and special purpose protective clothing, such as firemen's coats. These garments commonly employed snap-type closures of the type shown at 24 which be rapidly opened or closed by the wearer and which provide an effective closure means. Such closures project forwardly and therefore, have a tendency to catch on surrounding equipment. However, since the coat 15 of the present invention rests flat against the wearer's chest irrespective of his position, such closures present less danger to the wearer than has been presented heretofore by the closures on more conventional garments. And, of course, since the coat 15 itself does not protrude forwardly in the chest area or at the front of the armpit, there is less danger of the coat getting caught.

In carrying out another aspect the present invention, there is provided a novel neckband assembly 34 which, because of its unique construction, greatly enhances the fit of the entire garment 15. To this end, and as best illustrated in FIGS. 5 and 8, the garment is provided with an inner neckband 78 and an outer neckband 79, the lower edges of which are folded inwardly upon themselves to form a pair of facing hems 80, 81 respectively. While the outer band 79 would most commonly be made of the same material at the exterior body panels 18, 19, the inner band 78 (i.e., the band that directly contacts the neck) is preferably made out of, or lined with, a softer material such, merely by way of example, as corduroy. The coat body 16, which is constituted of the panels 18, 19 (FIG. 4), and the yoke 55 are both carried upwardly between the two bands 78, 79 and secured thereto by a line of stitching 82 which extends through the band 78, hem 80, body 16, yoke 55, hem 81, and band 79.

For the purpose of providing additional strength for the neckband assembly 34, the body 16 and yoke 55 extend upwardly between the inner and outer bands 78, 79 a substantial distance above the line of stitching 82 and are secured adjacent their uppermost edges by a second and vertically spaced line of stitching 84 which passes through both bands. In like manner, the upper tab portions 61, 62 of the sleeves and the shoulder caps (cap 51 as shown in FIG. 6) also provide a double thickness of material which extends upwardly between the bands 78, 79 and is secured thereto by the vertically spaced lines of stitching 82, 84. Thus, the neckband assembly 34 is comprised of at least four piles of material throughout a substantial portion of its height. It has been found that this multiple-ply neckband construction prevents the neckband assembly 34 from rolling or binding across the neck, while at the same time it tends to aid in holding the garment 15 snugly in place against the neck, shoulder, and upper chest areas of the wearer's body.

The neckband assembly 34 also serves to receive and support the collar 32. To accomplish this, the upper

edges of the bands 78, 79 are folded inwardly upon themselves to form a pair of facing hems 85, 86. The collar 32 is inserted between the two bands 78, 79 and secured in place by a line of stitching 88 which passes through the hems of both bands. In the exemplary garment, the collar 32 comprises an outer ply 89 and an inner ply 90 which are contoured in back (as generally indicated at 91 in FIGS. 1 and 6) so that the collar, when worn upright as shown in FIG. 1, will not engage and tilt the wearer's helmet. The two plies 89, 90 are each turned inwardly upon themselves and stitched together along the upper collar edge as shown at 92. An additional line of transverse stitching 94 is provided about the center of the collar 32. As with the neckband assembly, the inner surface or ply 89 is preferably made of a soft material, such as corduroy.

In accordance with another of the important aspects of the present invention, the garment 15 is provided with a novel reinforced pocket construction, thus permitting the wearer to utilize the pockets for carrying relatively heavy equipment. In the illustrative form of the invention, this is accomplished by providing a "sling-type" support of the pocket which serves to distribute the load carried by the pocket over a wide area.

In carrying out this aspect of the invention, the pockets 39 (FIG. 9) are each formed of a pair of pocket panels 95, 96 having approximately the same width (FIG. 1) but having different lengths. As best shown in FIG. 9, the panel 95 is considerably shorter than the panel 96, with the two panels being assembled face-to-face with their upper horizontal edges aligned. The panels are secured together by transverse lines of stitching 98 passing through their aligned upper edges, transverse lines of stitching 99 passing through the lower edge of the shorter panel 95, and a transverse line of stitching 100 located approximately midway between the lines 98 and 99. The arrangement is such that the panels 95, 96 are joined to the body 16 of the coat by the lines of stitching 98 and 100 with the shorter panel 95 being interposed between the coat body and panel 96. Those portions of the panels 95, 96 disposed below the line of stitching 100 are then folded upwardly about the stitch line 100 and upon themselves to form a pocket having a generally U-shaped cross-section, here defined by the two telescoped U-shaped panels 95, 96. The opposite vertical edges of the pockets are then stitched to the body 16 by lines of stitching 101 (FIG. 1), and the pocket is finished by hemming the upwardly extending portion of the longer panel 96 as shown at 102.

From the foregoing, it will be seen that outer short panel 95 defines a U-shaped sling support of the main pocket panel 96. As a consequence of this construction, any load that is carried by the pocket will be distributed by virtually all of the stitch lines 93-101. Moreover, the line of stitches 100 which defines the bottom of the pocket 39 is disposed within the pocket and is, therefore, protected from burning or wearing out, as is the line of stitches 98.

Provision is also made for protecting the wearer's arms from, for example, both wind and water. To this end, each sleeve is provided with a wristlet 104 (FIGS. 1 and 3) which is preferably made of a band of soft elastic material secured either directly to the sleeves or to arm protective flaps 105, the latter being secured to the sleeves 30 (FIG. 3) and 31 (FIG. 1) by lines of stitches 106. However, this type of construction, while providing adequate protection for the wearer's arm, has heretofore had a disadvantage which has proved to be quite vexing to those attempting to don garments, particularly when an emergency has arisen that requires the user of the garment to dress in a hurry, for example, when a fire alarm has sounded. It is not unusual for the user of the garment to find at such times that the wristlet 104 and protective arm flap 105 have ridden up the sleeve the last time that he withdrew his arm, thus fouling the

sleeve. When this occurs, the user must remove the garment and clear the fouled sleeve or, alternatively, the user must do this each time that he removes the garment so that it will be ready to don immediately the next time that an emergency arises.

To resolve the difficulty noted above, the illustrative garment is provided with wristlet anchor means for preventing the wristlet from riding up into the sleeve when the arm is withdrawn. As shown in FIGS. 1 and 3, this is accomplished by providing an anchor strap 108 which is secured adjacent one end to the wristlet 104, and adjacent its opposite end to the cuff or terminal portion of the sleeve. Thus, when the user withdraws his arm, the wristlet remains in place and will not foul the sleeve.

Those skilled in the art will readily appreciate that garments constructed in the manner set forth hereinabove will have a number of other advantages. Merely by way of example, it will be appreciated that since the body 16 of the garment is made of only two panels 18 and 19 with a single seam 20 disposed in the back, there are no side seams in the body which can be subjected to frictional wear resulting from movement of the wearer's arms. Moreover, since the overall garment includes only two body panels, it requires fewer seams and is, therefore, stronger. Additionally, the single body seam 20 is disposed at the rear of the garment where it is less likely to be subject to either weakening or frictional wear.

We claim as our invention:

1. A sleeved garment comprising, in combination, a garment body having edges and vertical front and rear centerlines, the upper edge of said body being cut away to delineate a first marginal edge defining an armhole having its centerline spaced from said rear centerline by a distance D1 and from said front centerline by a distance D2, said distances D1 and D2 being approximately equal so that when said garment is applied to a human torso said body will fit snugly against the front of the torso while defining an allowance of extra material projecting rearwardly from the rear of the torso, means defining a sleeve having a second marginal edge secured to said first marginal edge, means associated with at least one of said marginal edges defining extra material disposed rearwardly of the vertical centerline through the armhole and extending upwardly therefrom and which contributes to said rearwardly projecting allowance of extra material, so that all of said extra material permits freedom of movement of said sleeve while preventing distortion of said body.

2. A sleeved garment comprising, in combination, a garment body consisting of left and right body panels, means defining left and right armholes in said left and right panels respectively, means defining left and right sleeves each having marginal edges secured to respective ones of said panels, means securing said marginal edges to said armhole defining means to form left and right articulated sleeve connections, and means associated with each of said panels and with each of said sleeves defining an allowance of extra material projecting rearwardly from said garment adjacent each articulated connection with all of said allowance being disposed only rearwardly of and extending upwardly from the vertical centerline through each of said armholes so that said allowance of extra material will accommodate free-wheeling sleeve movement devoid of forces tending to distort said body panels and so that said garment is void of extra material in the regions of said articulated sleeve connections forward of said vertical centerline.

3. A sleeved garment having a garment body patterned to fit snugly against the wearer's chest, said garment comprising, in combination, a garment body having an upper edge cut away to delineate a first marginal edge defining an armhole, means defining a sleeve having a second marginal edge secured to said first marginal edge, said body and said sleeve means each being formed of patterns having an allowance of extra material, all of said

allowance of extra material being disposed only rearwardly of the vertical centerline through said armhole and projecting only rearwardly and upwardly therefrom and defining a fullness of material projecting only rearwardly of said armhole and said garment and only upwardly from the vertical centerline through said armhole so that when said garment is assembled said body fits snugly against the wearer's chest and said allowance of extra material permits freedom of movement of said sleeve while preventing distortion of said body.

4. A sleeved garment comprising, in combination, a body panel having one edge cut away to delineate a first marginal edge defining an armhole, means defining a sleeve having a second marginal edge secured to said first marginal edge, and means associated with at least one of said marginal edges defining an allowance of extra material disposed rearwardly of the vertical centerline through the armhole and extending upwardly therefrom, all of said allowance of extra material being disposed only rearwardly of the vertical centerline through said armhole and projecting only rearwardly and upwardly therefrom and defining a fullness of material projecting only rearwardly of said armhole and said garment so that freedom of movement of said sleeve is permitted and distortion of said panel is prevented.

5. An article of protective wearing apparel comprising, in combination, a garment body having edges and including left and right armholes formed in the upper edge thereof, means defining left and right sleeves each formed of front and rear pieces of material having edges, said sleeves respectively secured to the opposite sides of said body in surrounding relation to respective ones of said armholes, said sleeves including tab portions formed along opposed longitudinal edges of the ones of said front and rear pieces of material forming said sleeves, said tab portions and said opposed longitudinal edges of each sleeve seamed together and said tab portions seamed to said body so as to define a pair of raglan sleeves, means associated with said sleeves and said body defining an allowance of extra material disposed rearwardly of and extending upwardly from the vertical centerline through each armhole, said allowance of extra material defining a fullness projecting rearwardly from said garment and each of said armholes, means for holding said garment body snugly against a wearer's shoulder, chest and neck areas, said holding means comprising inner and outer neckbands, the upper edges of said body and said sleeve tab portions being received within said inner and outer neckbands and extending vertically therebetween throughout a substantial portion of the height of said neckbands, and means securing said neckbands to said body and said tab portions along vertically spaced transverse lines so that said neckbands, body and tab portions define a multiple-ply neckband assembly.

6. A sleeved garment comprising, in combination, a garment body consisting of left and right body panels having edges, said panels being seamed together at the rear centerline of the garment and overlapping at the front centerline of the garment, the upper edge of each of said panels being cut away to delineate a pair of spaced first marginal edges defining spaced armholes with each armhole having its vertical centerline spaced from said rear centerline by distance D1 and from said front centerline by a distance D2, said distances D1 and D2 being approximately equal so that when said garment is applied to a human torso the breadth of material 2D1 extending from armpit to armpit is approximately equal to the breadth of material 2D2 extending from armpit to armpit whereby said garment will fit snugly against the front of the torso while defining an allowance of extra material projecting rearwardly from the rear of the torso, means defining a pair of sleeves each having a second marginal edge secured to different ones of said first marginal edges, and means associated with at least one of said marginal edges defining extra material disposed rearwardly of the

vertical centerline through the armhole and extending upwardly therefrom so that said extra material associated with said marginal edge contributes to said rearwardly projecting allowances of extra material and so that all of said extra material permits freedom of movement of said sleeves to accommodate freewheeling devoid of forces tending to distort said body panels.

7. A sleeved garment comprising, in combination, a body panel having an upper edge being cut away to delineate a generally U-shaped marginal edge defining an armhole, front and rear sleeve pieces having edges with their adjacent edges seamed together to form upper and lower seams and defining a marginal edge secured to said marginal edge on said body panel, at least one of said body panel and said rear sleeve piece having an allowance of extra material adjacent the edge defining a portion of its marginal edge with all of said extra material being disposed only rearwardly of and extending upwardly from the vertical centerline of the armhole so that said allowance of extra material provides a bonus of material projecting only rearwardly of said armhole and said garment and upwardly from the vertical centerline through said armhole.

8. An article of protective wearing apparel comprising, in combination, a garment body having edges and vertical front and rear centerlines, the upper edge of said body being cut away to delineate a first marginal edge defining an armhole having its centerlines spaced from said rear centerline by a distance D1 and from said front centerlines by a distance D2, said distances D1 and D2 being approximately equal so that when said garment is applied to a human torso said body will fit snugly against the front of the torso while defining an allowance of extra material projecting rearwardly from the rear of the torso, means associated with said first marginal edge defining extra material disposed rearwardly of the vertical centerline through the armhole and extending upwardly

therefrom, and means defining a sleeve having a second marginal edge secured to said first marginal edge, said sleeve having an allowance of extra material adjacent its edge defining said second marginal edge disposed rearwardly of and extending upwardly from the vertical centerline of the armhole so that all of said extra material permits freedom of movement of said sleeve while preventing distortion of said body.

References Cited by the Examiner

UNITED STATES PATENTS

346,087	7/1886	Byers	2—87
359,052	3/1887	Bolen	2—270
422,669	3/1890	Upthegrove	2—93
694,262	2/1902	Emanuel	2—87
933,099	9/1909	McDonald	2—247
1,477,744	12/1923	Yaghubian	2—85
1,630,838	5/1927	Dryer	2—74
1,642,670	9/1927	Davis	2—82
1,703,808	2/1929	Wright	2—115
1,870,966	8/1932	Rubinstein	2—116 X
1,965,995	7/1934	Tripp	2—93
1,986,217	1/1935	Pilla	
2,086,235	7/1937	Oppenheim	2—122
2,131,220	9/1938	Coverman	2—122
2,265,808	12/1941	Jacobi	2—116
2,426,818	9/1947	Clyne	2—125 X
2,627,072	2/1953	Formmelt et al.	2—81 X
2,779,024	1/1957	Storfer	2—93
2,943,330	7/1960	Clyne	2—125

FOREIGN PATENTS

183,909 4/1918 Canada.

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