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PM004 XR 2,954,563

Oct. 4, 1960 J. DE GRAZIA 2,954,563

ARMORED GARMENT

Filed Aug. 18, 1959

Fig. 1.

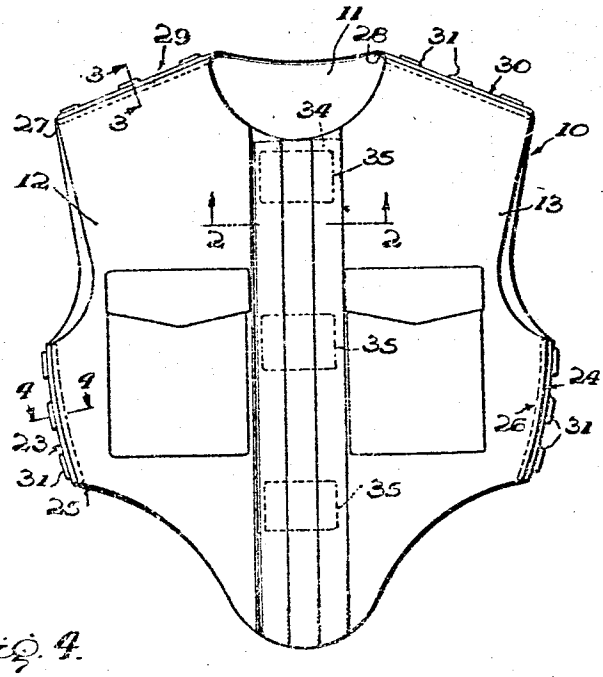


Fig. 4.

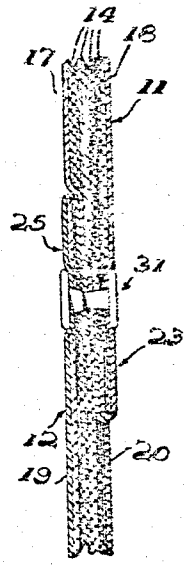


Fig. 2.

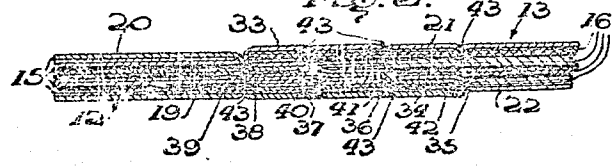
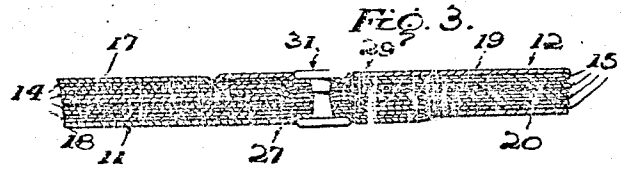


Fig. 3.



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ARMORED GARMENT

Joseph De Grazia, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army

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2 Claims. (Cl. 2—2.5)

(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

The invention relates to body garments and more particularly to armored body garments of the type wherein the armor comprises a plurality of plies of flexible sheet armor. Such garments are of necessity formed of several pieces or sections which must be connected together to form the complete garment. Such connections, if butt joints, are inherently weak at the joints. If such connections are lapped joints, the bulks of the garment is doubled at the joints.

With the foregoing in view, it is an object of the invention to provide an improved body garment of the class described.

A further object is to provide an improved armored garment wherein the joints between the several garment sections are so formed and arranged that the strength of the armor is not weakened at such joints and the thickness of the garment is neither increased nor decreased.

Other objects and advantages reside in the particular structure of the invention, the structure of the several elements of the same, combinations and sub-combinations of such elements, all of which will be readily apparent to those skilled in the art upon reference to the attached drawing which illustrates one species of the invention and to the following specification wherein the invention is described and claimed.

In the drawing:

Figure 1 is a front view of a garment to which the invention has been applied; and

Figures 2, 3, and 4 are enlarged fragmentary sectional views taken substantially and respectively on the planes of the lines 2—2, 3—3, and 4—4 of Figure 1.

Referring specifically to the drawing wherein like reference characters designate the same parts in all views, 10 designates generally any suitable body garment such as the armored vest shown. The vest 10 comprises a one-piece back section 11, a right-hand front section 12 and a left-hand front section 13. As best seen in Figures 2, 3, and 4, each section is formed of a plurality of plies of flexible sheet armor which is preferably enclosed in an envelope of thinner textile material. Thus, the back section 11 comprises a plurality of plies of armor 14 and is enclosed by an envelope which comprises inner and outer textile sheets 18 and 17, respectively. In like manner, the right-hand front section 12 comprises a like number of plies 15 of flexible sheet armor which is sandwiched between outer and inner textile sheets 19 and 20, respectively. Finally, the left-hand front section 13 comprises a core composed of a similar number of plies 16 of flexible sheet armor which may be covered by inner and outer sheets 21 and 22 of textile material.

The back section 11 has right and left side portions 23 and 24 which are adapted to be connected respectively to corresponding side portions 25 and 26 of the right and left front sections 12 and 13. In like manner, the back section 11 has right and left top edge portions 27, 28 which are adapted to be connected respectively to corresponding top edge portions 29 and 30 of the right and left front sections 12 and 13. The connections between these edge portions may be by any suitable and well-known means. In the embodiment illustrated, the connections are by any suitable separable fasteners such as the snap fasteners 31.

The right and left front sections 12 and 13 have front edge portions 34 and 33, respectively, which are adapted to be readily detachably secured together to close the front of the garment. Such front edges 33, 34 may be secured together by any suitable and well-known separable fastener means which, in the embodiment shown may be the fasteners shown and described in my copending application, Serial No. 813,318, filed May 14, 1959.

To connect the edge portions together without providing weak butt joints or bulky lapped joints, the feathered edge arrangements shown in Figures 2, 3 and 4 have been provided. Preferably, the edge portions are feathered by having the edges of successive plies or armor disposed in different transverse planes to give the assembly a stepped appearance and achieve what has been called a stepped feathered edge. As the joint thus formed is the same at all meeting edges, it will suffice to describe but a single one of them. Thus, the edge portion 33 of the front section 13 has the successive plies 16 of armor so formed that their edges 35, 36, 37, 38 are in stepped relation to each other. Here the edge 35 for the outermost ply 16 is disposed inwardly of the edge 36 of the next ply which, in turn, is inwardly of the edge 37 of the next innermost while the latter is inset from the edge 38 of the innermost ply.

The edge portion 34 for the other front section 12 is complementary to the edge portion 33. Thus, the edge 39 of the innermost ply is inset from the edges 40, 41, 42 and these in turn extend outwardly beyond each other whereby to form butt joints with the corresponding edges 38, 37, 36 and 35 of the edge portion 13. This stepped feathering of the joints provides joints which have the same thickness as the basic material and which, from the protective point of view at least are as strong as the main body of the garment. Likewise, no flexibility of the garment is lost which is particularly important along the front closure of the garment to permit the wearer to bend forwardly in comfort. If desired, the stepped edges of the joints may be defined by stitches 43, Fig. 2, or these may be omitted as in Figures 3 and 4.

While there has been shown and described what is now thought to be the preferred embodiment of the invention, it is understood that the same is susceptible of other forms and expressions. Consequently, the invention is not considered to be limited to the precise structure shown and described hereinabove but only as hereinafter claimed.

I claim:

1. In an armored garment comprising a plurality of garment sections, each section comprising a plurality of plies of flexible but relatively thick sheet armor; the improvement comprising each section having at least one edge adapted to be connected to a corresponding edge of another section, said plies at such edges having edge portions disposed in uniformly stepped arrangements, to provide stepped feathered edges, the feathered edge of one group of plies being complementary to the corresponding edge of an adjacent section whereby such edges overlap without increasing the garment thickness, and separable fastener means for connecting said overlapped edges together.

2. In an armored vest including a back section and two front sections, each section comprising a plurality of plies of flexible sheet armor; the improvement com-

prising said sections having top and side edge portions adapted to be connected together, said front sections having front edges adapted to be connected together, said armor plies at all of said edge portions and edges having marginal portions formed as uniformly stepped arrangements to provide stepped feathered edges, the feathered edges of each section being complementary to the corresponding edges to which they are adapted to be connected whereby all of such edges overlap without increasing or reducing the thickness of said vest, and separable fastener means for connecting said overlapped edges together.

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