

R. F. MacCLEMMY.
BODY BRACE.
APPLICATION FILED DEC. 9, 1908.

948,233.

Patented Feb. 1, 1910.

3 SHEETS—SHEET 1.

Fig 1

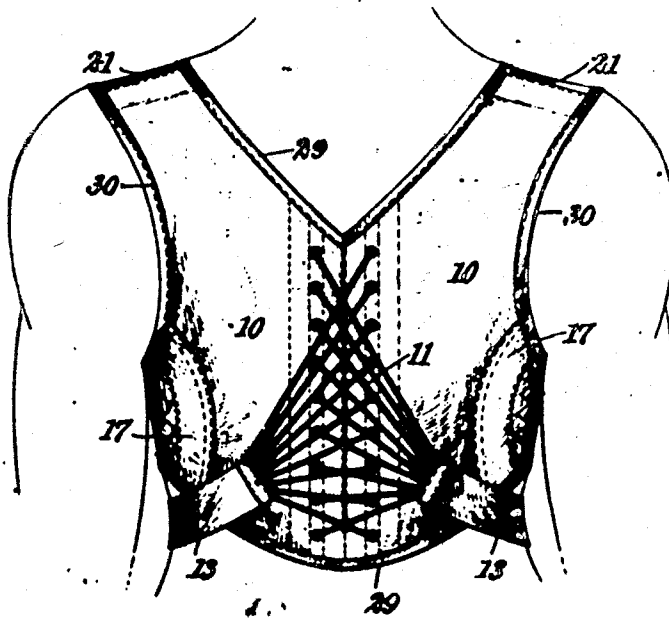
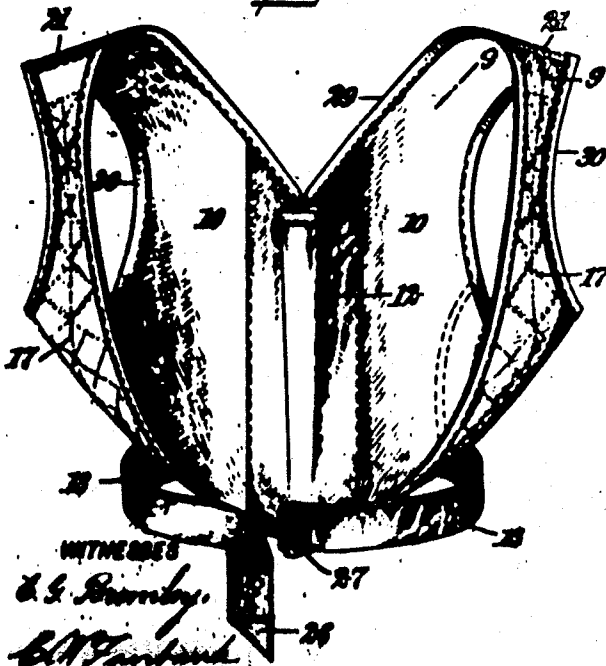


Fig 2



WITNESSES

E. S. Ramsey.

W. J. Finkbeiner.

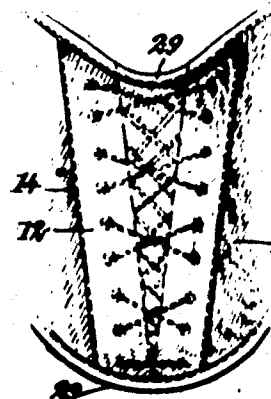


Fig 3

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3 SHEETS—SHEET 2.

Fig 4

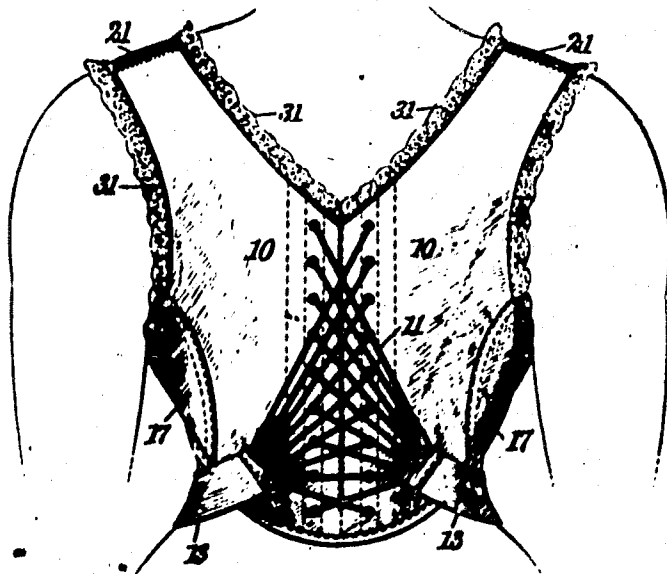
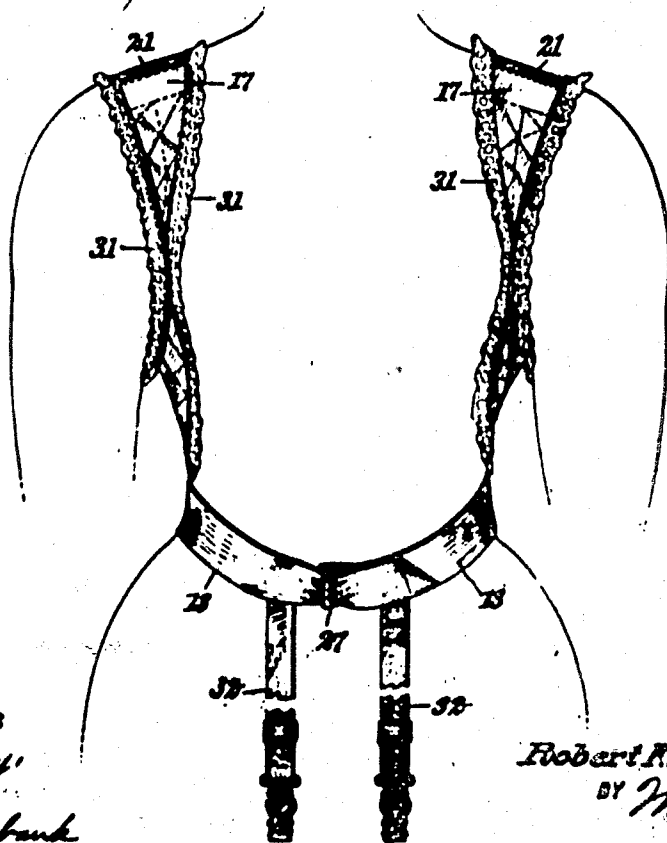


Fig 5



WITNESSES

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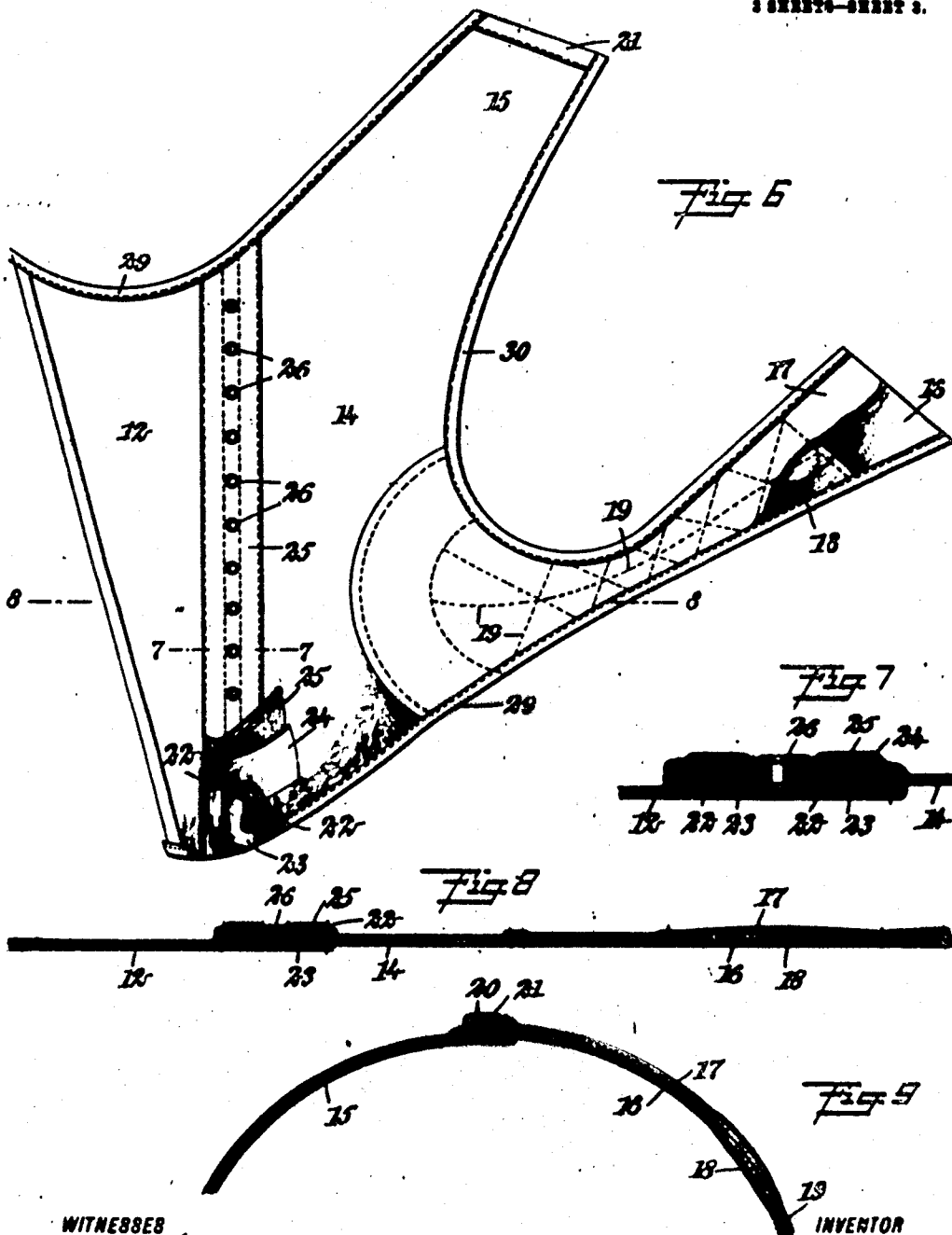
BY *Miner & Co.*

ATTORNEYS

R. F. MACCLEMMY.
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3 SHEETS—SHEET 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

ROBERT F. MACCLEMMY, OF NEW YORK, N. Y.

BODY-BRACE.

945,543.

Specification of Letters Patent.

Patented Feb. 1, 1910.

Application filed December 8, 1906. Serial No. 444,542.

To all whom it may concern:

Be it known that I, ROBERT F. MACCLEMMY, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Body-Brace, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in shoulder braces, and more particularly to that type of shoulder brace in which there are two back sections, each having an arm hole therein, lacing or cords connecting the sections together, and belt sections connected to the ends of the cords and buckling together in front to adjust the back sections in respect to each other.

In my improved shoulder brace, I secure a better fit around the arm hole and about the shoulder, by forming the portion which extends beneath the arm and in front of the arm integral with the back section, and connecting it to the back section along the top of the shoulder. I prevent the portion above the shoulder from wrinkling, doubling or folding, by provision of a special reinforcing means. I prevent the cords or lacing connecting the back sections from injuring or irritating the skin of the wearer, by providing a lining section adjacent the cords and connected to the back sections. I limit the spreading movement of the back sections in respect to each other, by connecting the back sections and the lining sections together by a continuous tape binding or border, and prevent the reinforcing stays from injuring the wearer or projecting through the inclosing casings, by means of the special construction hereinafter described. The garment is prevented from injuring or irritating the wearer beneath the arm pit and in front of the shoulder, by a special form of padding secured to the outside of the back sections. The belt or waist-band portion is secured together in front, by a special form of buckle which is narrower than the belt or band so it cannot contact with or injure the body, and this belt or waist-band may have attached thereto suitable hose supports.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a back view of a garment con-

structed in accordance with my invention and designed for men's wear; Fig. 2 is a front view of the garment shown in Fig. 1; Fig. 3 is a view similar to a portion of Fig. 2, but showing the back sections spread apart to the limiting position; Fig. 4 is a view somewhat similar to Fig. 1, but showing a modified form designed for women's wear; Fig. 5 is a view of the garment shown in Fig. 4, as it appears from the front; Fig. 6 is a plan view of one of the back sections partially dis-assembled; Fig. 7 is a transverse section on the line 7--7 of Fig. 6; Fig. 8 is a transverse section on the line 8--8 of Fig. 6; and Fig. 9 is a section through the shoulder and taken on approximately the line 9--9 of Fig. 2.

The main parts of my improved shoulder brace include two back sections 10, 10, lacing 11 connecting the sections together at the back, a lining section 12 also connecting the main sections at the back, and belt sections 13, 13, connected to the ends of the casing and adapted to be secured together at the front of the waist. Each back section is formed of a piece of stout non-elastic fabric cut to form a vertically-extending body portion with upper and lower shoulder strap-forming sections 15 and 16, which when secured together form complete shoulder straps with arm holes therein. The upper section 15 extends upwardly from the body section 11 and its free end is cut to terminate along the top of the shoulder of the wearer. The lower section 16 extends forwardly along the forward portion of the body and thence upwardly, so that when the ends of the sections 15 and 16 are secured together they will closely fit the body of the wearer and follow the contour thereof. Braces have been formed in which the part corresponding to my shoulder strap-forming section 15 is extended forwardly and downwardly and adapted to be buckled to the body portion beneath the arm, but fabric cannot be cut so that the front portion of the shoulder strap will fit the body equally well at both edges thereof, and the shoulder strap will tend to cut into the flesh and become very uncomfortable, whereas by forming the shoulder strap of two sections each integral with the body of the back section and connecting these sections together along the top of the shoulder, the completed shoulder strap fits the body and there is no tendency for either edge of the strap to cut into the

flesh. In order to further prevent the shoulder strap from wrinkling or cutting into the flesh, I provide a padding which is secured to the outside of the lower shoulder strap portion rather than to the inside. To the outer surface of the shoulder strap-forming portion 16 I secure a layer or sheet of similar material 17 corresponding in shape to said section 16. The lower portion of the shoulder strap is thus formed of two layers, and between these layers I provide one or more layers of padding 18. The two layers 16 and 17 together with the interior padding are secured together by a plurality of lines of stitching 19, one of which extends lengthwise of the shoulder strap and several of which extend transversely thereof. The padding 18 terminates at a short distance from the end of the shoulder strap section 16, so that there is left a portion of double thickness between the end of the padding and the seam connecting the sections 15 and 16. Likewise, the padding terminates below the arm hole and at a short distance from the end of the outer layer 17 to leave a portion below the shoulder blade formed of two layers without padding. By securing the padding to the outside of the section 16, the inner surface is rendered perfectly smooth and devoid of seams, folds, or ridges, which might irritate or injure the body, but the padding serves to render the section comparatively soft and prevents it from wrinkling or creasing to cut the body.

Considerable difficulty is experienced in the body braces now in use, due to the wrinkling or folding of the shoulder strap along the top of the shoulder. In my improved construction, I prevent this by connecting the sections 15 and 16 together by a special form of seam in which there is employed a slight reinforcement or stiffening. As shown particularly in Fig. 9, the end of the section 15 is folded back upon itself and is secured to the inner surface of the section 16 at a short distance from the edge of the latter. The sections 16 and 17 lie in contact with each other, and at the outer surface of the section 17 I provide two narrow strips of stiffening or reinforcing material 20. This reinforcement, as well as the edges of the layers 16 and 17, are concealed and protected by a strip of braid 21 having its edges turned in and sewed in place. By means of this special form of seam including the reinforcement, the shoulder strap is held perfectly smooth and even along the top of the shoulder.

At the rear or vertical edge of the body portion 14 of each back section, I provide a stay or reinforcement for holding the back portion of the garment straight and smooth and aid in holding the body in an erect position. Each stay or reinforcement preferably includes two steels 22, 22, disposed

on the outer surface of the body section 14 and spaced therefrom by a fabric lining strip 23. Adjacent the outer surfaces of the two steels is a second lining strip 24, and the lining strips and the steels are held in position by an outer casing or cover 25 having its edges turned in and secured to the body portion 14 by lines of stitching at each edge of each of the two steels or stiffening members. Intermediate the two steels I provide a plurality of eyelets 26 for the insertion of the lacing connecting the back sections. The two back sections are connected by lacing or cords 11 extending through the eyelets, and the ends of the cords are connected to the two belt sections 13, 13 in the usual manner. One of the belt sections 13 carries a buckle 27 of a width somewhat narrower than the width of the belt section, so that the middle of the buckle cannot come in contact with the body when the garment is in use, and the end of the other belt section is preferably folded back upon itself to form a pointed reinforced terminal portion 28, which cannot ravel and which is easily inserted through the narrow buckle.

The two back sections are connected together not only by the lacing but also by the lining section 12, which is of greater width at its upper end than at its lower end and serves to prevent the contact of the cords with the body. The lining section at its side edges is connected to the back section adjacent to but spaced from the free edges of the latter. The lining section 12 is preferably secured at a distance from the free edge of the back section equivalent to the width of the reinforcing stay, so that it covers the eyelets 16 and the stay, and with the lining section and the back sections in alignment, the stays are free to swing outwardly along one edge. The lining section 12 serves not only to cover the cords, stays and eyes, but also serves to limit the outward movement of the back sections away from each other. The lining section is provided with a re-entrant angle at its upper end, the sides of which are in alignment with the upper edges of the back sections so that when the back sections are in either of their limiting positions, a substantially V-shaped opening or recess is formed. The upper end of the lining section 12 is directly connected to the back sections for a distance equal to the width of the stays, and a border or binding 29 encloses the free edges of both the back sections and the lining sections. This border or binding extends continuously across the top of the lining section, along the upper edges of the sections 15, down the front edges of the sections 16, and across the lower ends of the two back stays and the lower end of the lining section 12. This border or binding also serves to limit the spreading movement of the two back sections at their

upper edges and holds the lining section 12 substantially in alinement with the back sections. Similar bindings or borders 30 encircle the arm holes. These prevent the edges of the material from stretching or becoming distorted and equalize the strain throughout the width of the shoulder strap portion.

As previously stated, my garment may be adapted for men, women or children, and when adapted for women's wear, it is preferably provided with edging or lace 31 extending along each edge of the shoulder stays and serving not only to render the garment more ornamental in appearance but also serving to conceal from view the binding or marginal strips 29 and 30. As illustrated in Figs. 5 and 6, the belt or waist-band portion may be employed not only for drawing the back sections together and holding the garment in adjusted form, but may also serve for the attachment of hose supporters. These supporters 32 may, if desired, be readily secured to the waist-band portions and constitute a portion of the garment.

The specific form of garment above described embodies various different features, all of which contribute to the production of a perfect fitting garment having the maximum efficiency, but it is evident that various of these novel and useful features may be used separately from other of the features above described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A body brace, comprising a back formed of two sections each formed with an arm-hole therein, the portions in front of said arm-holes being integral with the back sections and uniting therewith beneath the arm pits, and the portions above the shoulders being formed integral with the back sections and united with the portions in front of the shoulders at seams extending over the tops of the shoulders, the meeting ends of the portions being of substantially the same width, separate reinforcing strips extending along each of said seams and serving to hold the fabric smooth along the tops of the shoulders, and to prevent it from buckling or wrinkling, a lacing connecting said sections, and belt sections connected to said lacing and adapted to be secured together in front of the body.

2. A body brace, comprising a back portion formed of two sections each formed with an arm-hole therein, the portions in front of said arm-holes being integral with the back sections and united therewith be-

neath the arm pits, and the portions above the shoulders being formed integral with the back sections and united with the portions in front of the shoulders by seams extending along the tops of the shoulders, reinforcing layers secured to the portions in front of the shoulders, a layer of stiffening padding between said reinforcing layers and the adjacent portions, and a plurality of transverse seams extending across said reinforcing layers and the padding, and serving to retain the portions in front of the shoulders substantially stiff and prevent them from buckling or wrinkling, lacing connecting said back sections, and belt sections connected to said lacing, adapted to be secured together in front of the body.

3. A body brace having two back sections, each provided with an arm hole, a vertically disposed stay extending along the rear edge of each of said sections, a lacing connecting said stays, an inelastic lining piece secured to each of said back sections and serving to prevent contact of the lacing with the body and limit the relative movement of the back sections, and a binding inclosing the upper edge of each of said sections and the upper edge of said lining piece.

4. A body brace having two back sections, each provided with an arm hole, lacing connecting said back sections for adjusting their relative positions, a lining secured to each of said back sections and serving to prevent contact of the lacing with the body and limit the relative movement of the back sections, and a continuous binding extending around the periphery of both of said back sections and across the upper and lower ends of said lining.

5. A body brace, comprising a back portion formed of two sections each formed with an arm-hole therein, the portion in front of said arm-hole having reinforcing layers secured thereto, a layer of stiffening padding between said reinforcing layers and the adjacent portion, a plurality of transverse seams extending across said reinforcing layers and padding and serving to retain the layers in front of the shoulders substantially stiff and flat and prevent them from buckling or wrinkling, lacings connecting said back sections, and belt sections connected to said lacings and adapted to be secured together in front of the body.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT F. MACCLEMMY,

Witnesses:

CLAIR W. FAIRBANK,
JOHN P. DAVIS.