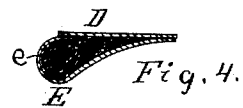
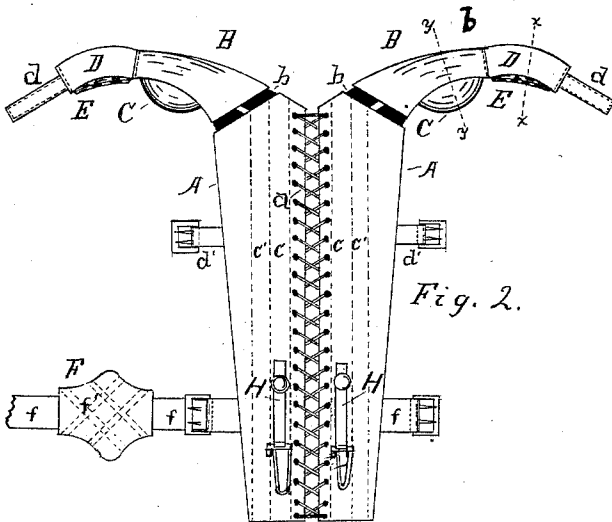
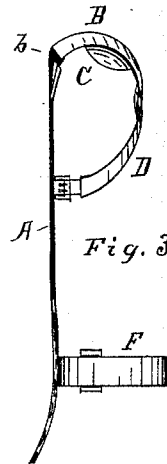
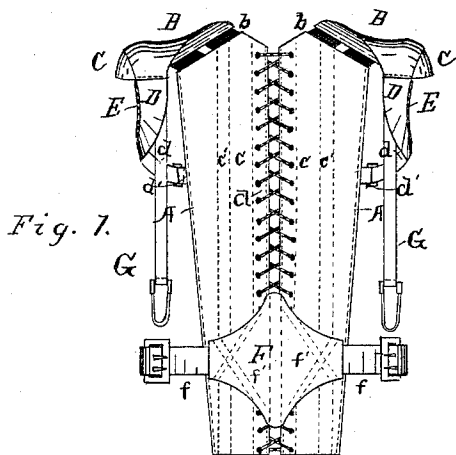


(No Model.)

H. E. & A. M. MATTHEWS.
SHOULDER BRACE.

No. 468,425.

Patented Feb. 9, 1892.



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UNITED STATES PATENT OFFICE.

HANNAH E. MATTHEWS AND ADALINE M. MATTHEWS, OF GRAND RAPIDS,
MICHIGAN.

SHOULDER-BRACE.

SPECIFICATION forming part of Letters Patent No. 468,425, dated February 9, 1892.

Application filed March 12, 1891. Serial No. 384,783. (No model.)

To all whom it may concern:

Be it known that we, HANNAH E. MATTHEWS and ADALINE M. MATTHEWS, citizens of the United States, residing at Grand Rapids, in the
5 county of Kent and State of Michigan, have invented certain new and useful Improvements in Shoulder-Braces, of which the following is a specification.

Our invention relates to improvements in
10 appliances for supporting the shoulders; and its objects are, first, to prevent the braces from working up toward the shoulders; second, to provide a shoulder-brace that will act upon the extreme points of the shoulders, and thus
15 avert the danger of its pressing upon the clavicle and the muscles, tendons, and blood-vessels below and adjacent thereto, and, third, to place the buckles, &c., in such positions that they will not impair the symmetry of fit of the
20 clothing worn outside of them. We attain these results by the means illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of our support. Fig. 2 is a back view of the same with the
25 shoulder-straps extended. Fig. 3 is a side view of the same. Fig. 4 is a section through the line *xx* of Fig. 2; and Fig. 5 is a section on the line *yy* of the same, showing the form of the brace and cap.

30 Similar letters refer to similar parts throughout the several views.

The back *A* of our device is composed of two parts laced together at *a* their entire length, the outer edges of said parts gradually diverging from the waist to the neck. It
35 is made long enough to extend well up on the shoulders and is provided with wide steel braces *c* and narrow ones *c'*, that extend the entire length of the back. We attach the
40 shoulder-braces *B* to the upper ends of the backs by means of short strips of elastic webbing *b* and provide them with shoulder-caps *C*, that may be made either of elastic or non-elastic fabric and are formed to curve down-
45 ward, so that they will drop over and bear upon the points of the shoulders and prevent the braces from drawing in against the neck of the wearer and bearing upon the clavicle and its muscles. To render these caps available
50 we find it necessary to form a sharp concave curve on the outer edges of the braces *B* at

the line of connection with the cap and to stitch a supplemental brace or pad *D* to the outer end of the brace *B* at an angle that will produce an obtuse angle at the point *b'* between the chamois-skin padding *E* and the
55 cap, as in Fig. 2, and to give this supplemental brace or pad a decided concavo-convex form edgewise, the line of stitching between the two rendering the line of juncture perfectly pliable by reducing the thickness of
60 the brace at this line to the thickness of the two fabrics of which it is composed and sewing them together. The upper surface of these pads may be made of any suitable fabric; but the lower surface should be made of
65 chamois-skin *E* or other suitable material and the space between them filled with wood fiber, wool, or other good padding material, which is so distributed that the pads are thick at the
70 outer edges and gradually taper to the thickness of the two fabrics at the inner edges, as shown in Fig. 4.

We attach straps of elastic webbing *d* to the outer ends of the pads for the purpose of
75 securing this end of braces to the back through the medium of the buckles and straps *d'*, for the purpose of forming the arm-hole of the brace. We take pains to place the buckles
80 immediately under the arm, so that they will not show through the clothing worn over the waist.

We attach a girdle or belt *Ff* at the waist of the support for the purposes, first, of securing the support to the body at the waist,
85 and, second, of supporting and improving the form of the waist. This girdle may be made wide in the center and provided with braces or bones *f'*, as shown in Figs. 1 and 2, or it may be a simple belt or band, as shown in
90 Fig. 3. When the form shown in Figs. 1 and 2 is used, we connect it with the back by means of straps attached to each side and arranged to interlock with the buckles *f*, attached to the backs with short straps, as shown in Fig.
95 2. This belt or girdle may be wholly or partially elastic or non-elastic, as desired.

The steels or braces *cc'* in the back should be bent at the waist-line to correspond with the curve of the back, which, together with
100 the length of the backs above this point, wholly averts the possibility of the brace working up.

Skirt supports or suspenders G may be attached to the braces, as at *g*, and corresponding supports H attached to the backs, if desired, and they act the double purpose, first, 5 of a support for the clothing, and, second, of assisting to hold the entire brace in position.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

10 A shoulder-brace constructed with back sections having a waistband attached thereto and buckles *d'* above the waistband, in combination with shoulder-straps, each in two sec-

tions, one section being flexibly attached to the back and provided with a shoulder-cap 15 and the other section flexibly attached to the first outside of the shoulder-cap and provided with a sweat-pad and a strap *d*, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, this 7th 20 day of March, A. D. 1891.

HANNAH E. MATTHEWS.

ADALINE M. MATTHEWS.

In presence of—

I. L. LEE,

ITHIEL J. CILLEY.