

(No Model.)

3 Sheets—Sheet 1.

F. J. BIRNEY.  
SHOULDER BRACE.

No. 542,009.

Patented July 2, 1895.

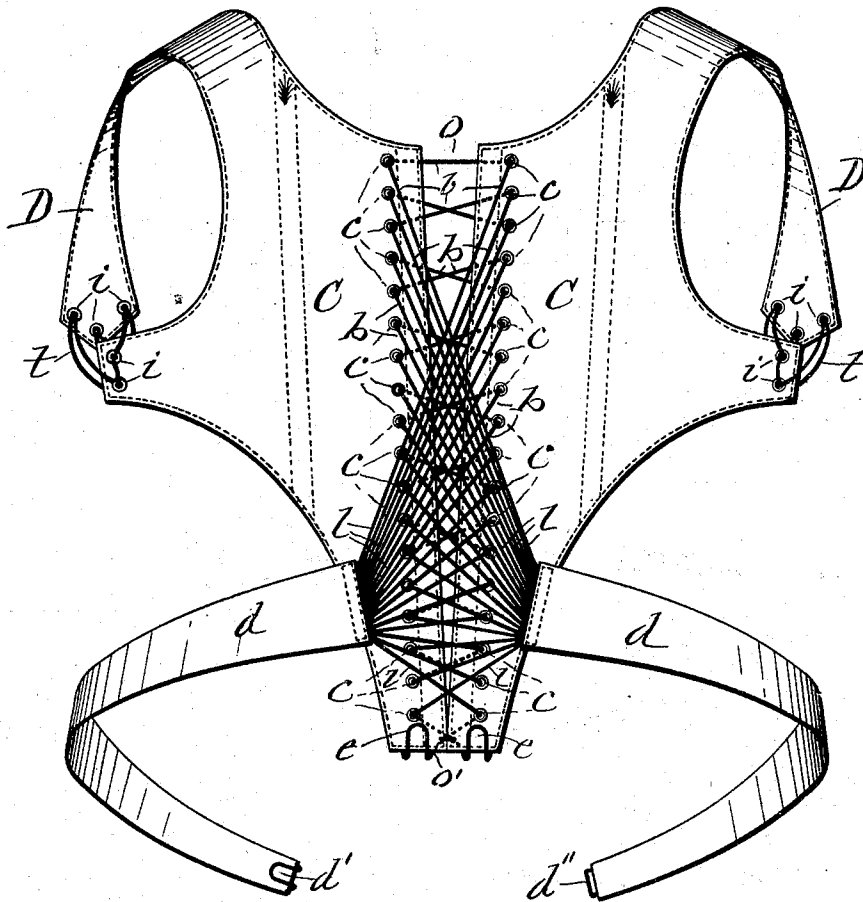


Fig. 1

WITNESSES:

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*A. Robinson*

INVENTOR

*Francis J. Birney*  
By *E. Laas*  
his ATTORNEY

(No Model.)

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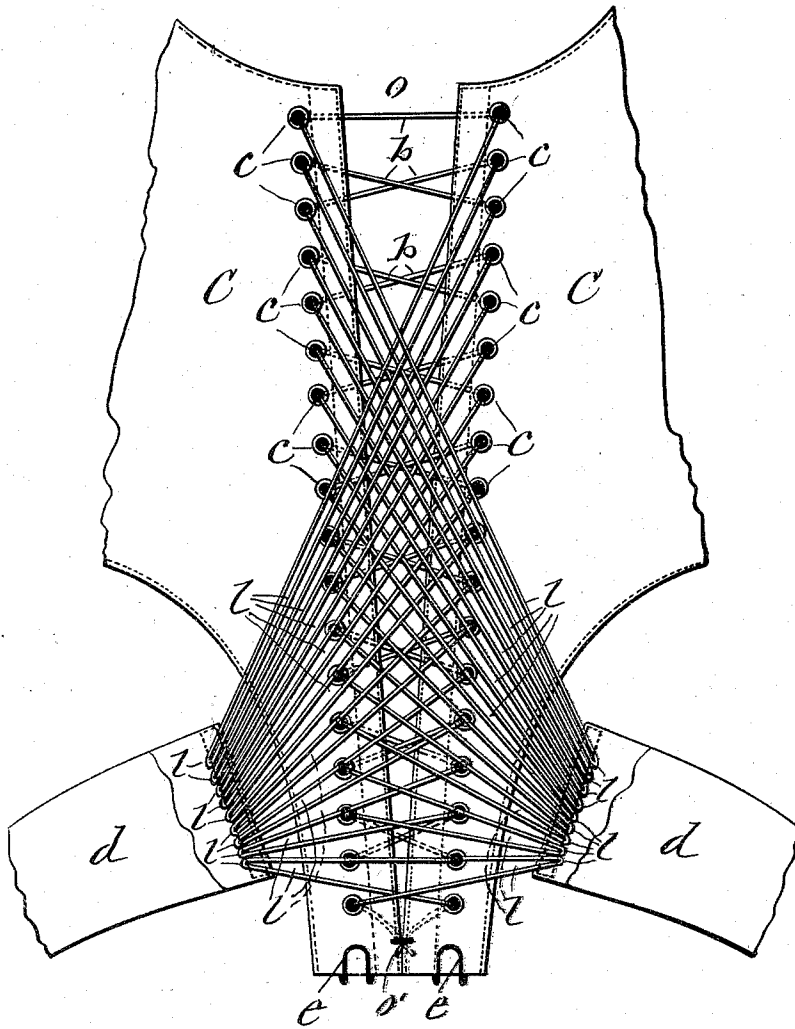


Fig. 2

WITNESSES:

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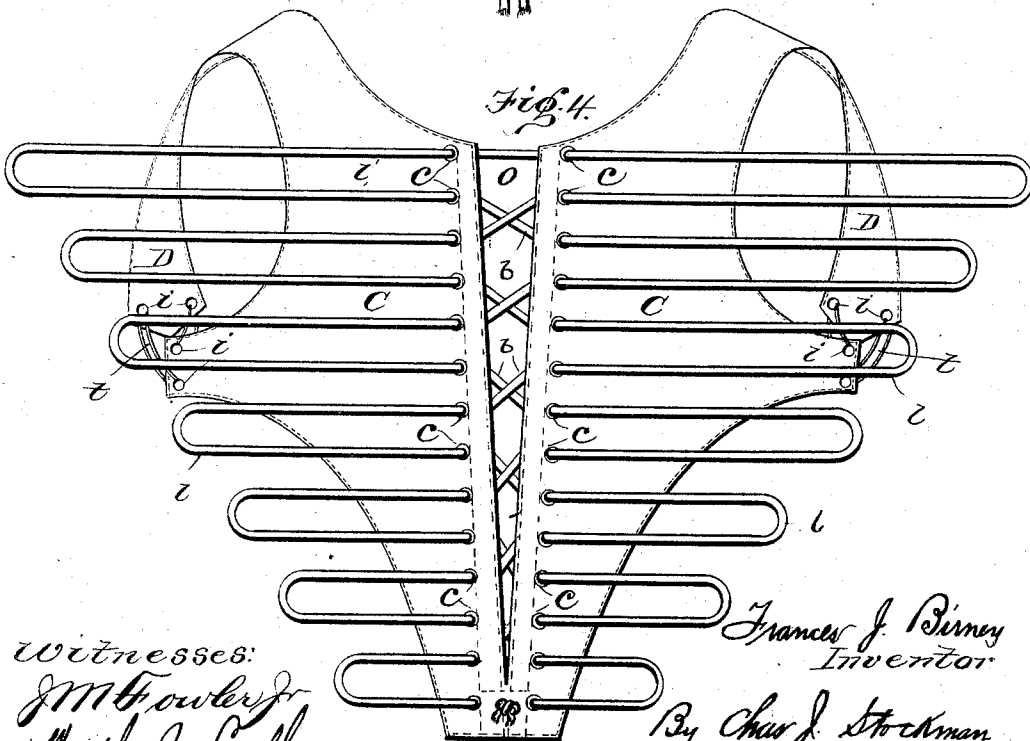
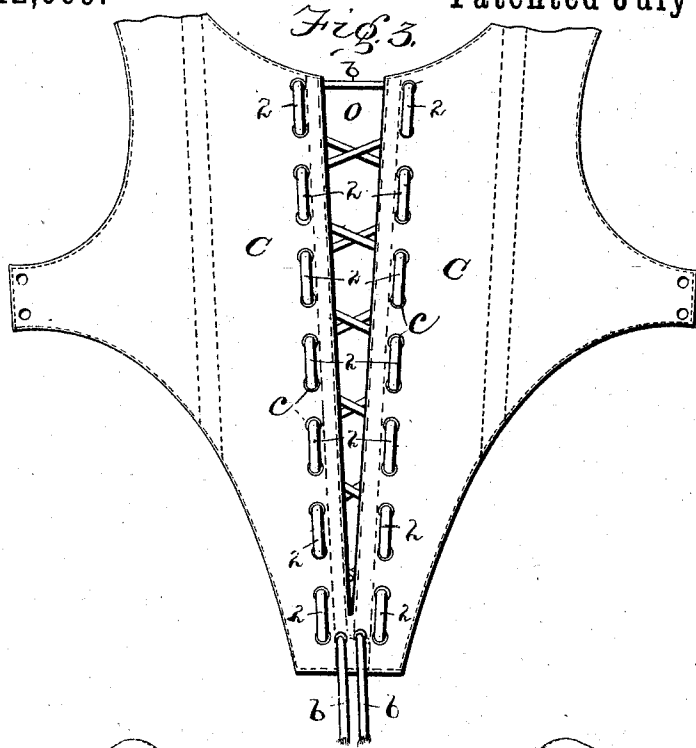
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SHOULDER BRACE.

No. 542,009.

Patented July 2, 1895.



Witnesses:

*J. M. Fowler*  
*Myrtle F. Castle*

*Francis J. Birney*  
Inventor

By *Chas. J. Stockman*

Associate Attorney

# UNITED STATES PATENT OFFICE.

FRANCES J. BIRNEY, OF SYRACUSE, NEW YORK.

## SHOULDER-BRACE.

SPECIFICATION forming part of Letters Patent No. 542,009, dated July 2, 1895.

Application filed March 21, 1895. Serial No. 542,570. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCES J. BIRNEY, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Shoulder-Braces, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention has relation to that class of shoulder-braces in which the lacing-cords are attached to bands designed to encircle the waist of the wearer and which, when properly pulled together, tighten the brace upon the wearer; and it consists in the peculiar construction thereof, substantially as hereinafter described; and particularly pointed out in the subjoined claim. Said braces, as heretofore constructed, have been found to be inefficient, in that the construction is such that the strain is not placed upon the shoulder where, obviously, it must come in order properly to accomplish the function of the brace, and the object of my invention is to overcome this disadvantage, and thereby provide a practical shoulder-brace of the type stated, which will meet with the approval of those familiar with the requirements of this class of invention. This object is accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a shoulder-brace embodying my invention. Fig. 2 is an enlarged detail view of the lacing and its attachments. Fig. 3 is a view of a part of a shoulder-brace, showing the lacing before the parts *b* thereof are drawn out into prolonged loops. Fig. 4 is a view showing the arrangement before the loops are crossed and attached to the waistband.

*C C* represent the so-called "back-stays" of the shoulder-brace. The adjacent edges of these stays are each provided with a series of eyelets *c c*, distributed throughout the length of the edge.

The lacing-cord *b*, employed in my construction, is a continuous one, and each end thereof passes through successive pairs of eyelets alternately at opposite sides of the opening *o* between the edges of the stays *C C*, and the parts *2* between the pairs of eyelets are drawn out to form prolonged loops *l* of varying lengths, which loops are caused to cross said

opening *o* and are attached to the adjacent ends of waistbands *d d*. Thus in lacing the respective ends of the continuous lacing-cord are passed through the top eyelet on the right or left stay, as the case may be, from the under side, and then along the outer surface of the stay to the second eyelet on the same side, from whence it extends to and through the third eyelet on the right stay, (crossing the other end of the cord between the opening and at the under side,) thence to and through the fourth eyelet on the last-mentioned stay, from whence it extends to and through the fifth eyelet on the first-mentioned stay, and so on, as shown in Fig. 2. The portions *2* (see Fig. 3) of the cords are then drawn out to form extended loops *l*, and these loops are brought down and secured to the ends of the waistbands *d d*, as above explained. The free ends of said waistband are provided with suitable attaching means, as, for example, a hook *d'* and an eye *d''*. The lower ends of the two stays are firmly attached together, and the waistbands are located beneath the longitudinal center of the shoulder-brace and preferably directly opposite, or nearly opposite, said lower secured ends of the stays. By thus unyieldingly fastening the bottoms of the two stays together and by locating the waistbands opposite, or nearly opposite, said secured ends and extending the ends of the continuous lacing-cord through the eyelets in the manner above described experience has proved that the strain of the lacing-cord is placed upon the shoulder-straps *D D*, whereby the shoulders of the wearer are drawn back to the desired degree, which is not the case with shoulder-braces of the type herein described and heretofore proposed.

The shoulder-straps are preferably provided with adjustable fasteners, consisting of eyelets *i i* in the ends of the straps and lacing-cords *t*, passing through said eyelets and tied in knots. The base of the stays may be provided with hooks *e e* or other suitable means for engaging the skirt of the wearer and keeping the shoulder-brace properly in position upon the wearer.

Having thus described my invention, what I claim is—

The herein described shoulder brace, consisting of back stays provided with shoulder

straps and having a series of eyelets at their adjacent edges, the lower ends of said stays being unyieldingly attached to each other; waist-bands located substantially opposite  
5 said lower ends of the stays; and the continuous lacing cord, the respective ends of which pass through successive separate pairs of eyelets alternately at opposite sides of the opening between the edges of said stays and are  
10 drawn out to form a prolonged loop between

each pair of eyelets, said loops crossing said opening between the stays and being secured to said waist-band; substantially as described and for the purposes specified.

In testimony whereof I have hereunto  
signed my name this 16th day of March, 1895. 15

FRANCES J. BIRNEY. [L. S.]

Witnesses:

JOHN J. LAASS,  
C. L. BENDIXON.