(No Model.)

J. B. CRAIG.

LACE FASTENER.

No. 519,018. Patented May 1, 1894.

Fig. 2.

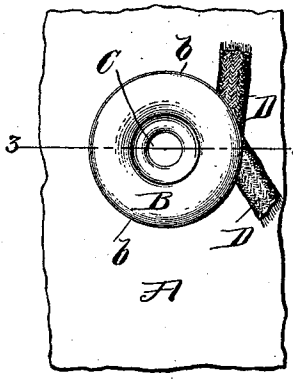


Fig. 1.

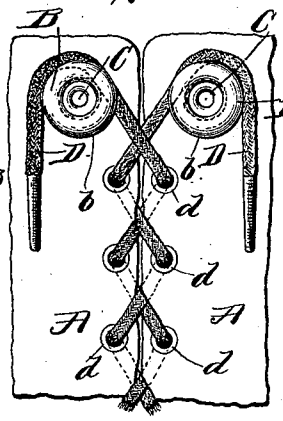


Fig. 5.

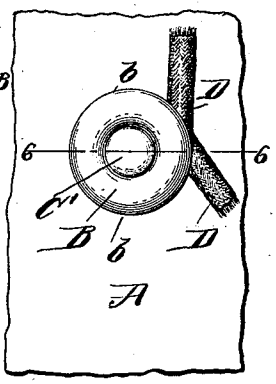


Fig. 3.

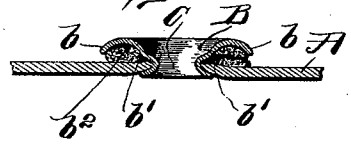


Fig. 6.

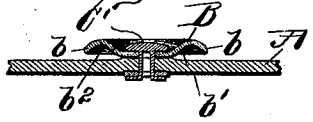


Fig. 4.

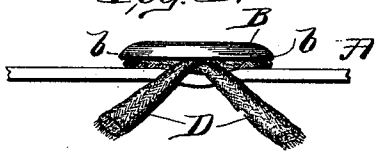
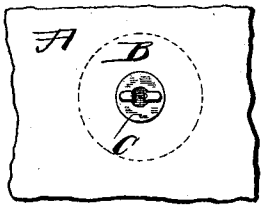


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN B. CRAIG, OF ST. LOUIS, MISSOURI.

LACE-FASTENER.

SPECIFICATION forming part of Letters Patent No. 519,018, dated May 1, 1894.

Application filed July 20, 1893. Serial No. 480,969. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. CRAIG, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Lace-Fasteners, of which the following is a specification.

My invention relates to that style of such fasteners as are provided with a central stem, and consists in features of novelty therein; as is hereinafter set forth.

In the drawings—Figure I represents a section of a shoe, glove, or other article to be laced: showing a front view with my device applied thereto. Fig. II is a front view of the fastener, with lace protruding, and represents an eyelet, stem, or open center to the fastener. Fig. III is a cross section on line 3, 3, Fig. II. Fig. IV is a side view of my fastener affixed to the article to be fastened. Fig. V is a top view of the same with a closed center fastener; Fig. VI a cross section on line 6, 6, Fig. V, and Fig. VII a bottom view, showing a modification by affixing the fastener to the article by means of a loop and toggle.

Similar letters represent similar parts throughout the several views.

In the drawings, A represents the flap or part of the article to which the fastener is attached, and which is required to be laced, and fastened, such as shoes, gloves, corsets, and the like. B, the annular dish shaped top plate, or disk of my fastener, made from sheet metal, or other suitable material, concavo-convex in outline on the inside, and on the outside, and having a flexible center hold upon the material to which the fastener is attached, whereby, when a strain is exercised upon the center bearing, of the fastener, the outside edge, *b*, of the disk, B, will be deflected toward the line of strain, and thereby bear strong and firmly upon the lacing, at the point where the lacing intercepts it when sufficiently drawn, and where the hand, or drawing end of the lace is laid over the standing part thereof between the disk and the material, thus firmly locking the lace in the desired condition.

The disk, B, is provided with a central stem, or opening, C, extending downward from it, whereby it is fastened to the material, or article to be laced in any of the well known modes of rivet or eyelet fastening, the stem thus made integral with the disk, forms—when fastened to the desired article—an acute angular neck, wedge shaped between the concave under part, *b'*, of the disk, and the part of the article, A, to which it is attached, leaving an annular space, b^2, between the wedge shaped part *b'*, and the turned down outer rim *b*, of the disk, B. Thus, when the lace, D, is given a turn around the stem, C, of the fastener, it is engaged by the part, *b'*, and frictionally held thereby, and the friction hold thus imparted to it, is in turn reinforced by the pressure—upon its protruding end—of the edge *b*, which is deflected to the line of strain, as before stated.

The mode of operation thus described, is the same whether the stem of the fastener is open, as in an eyelet, or closed, as in a rivet connection C' as shown in Fig. 6.

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

In an annular lace fastener, the combination of the wedge shaped annular recess "*b'*" stem "C" annular open-space "b^2." and the disk provided with the deflecting edge "*b*," all substantially as shown and described and for the purposes set forth.

JOHN B. CRAIG.

Witnesses:
S. S. MERRILL,
E. J. O'BRIEN.