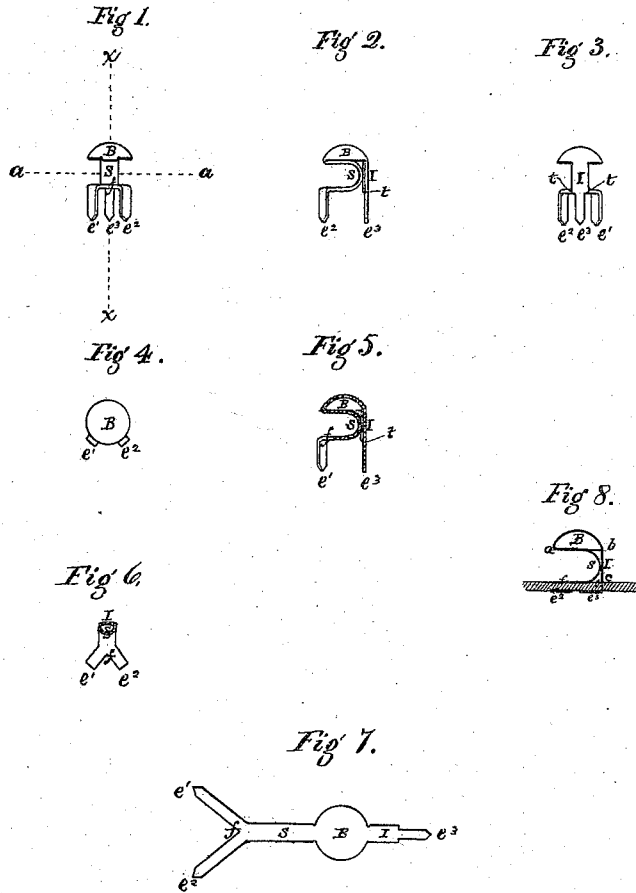


D. HEATON.

Lacing Button-Hook.

No. 133,312.

Patented Nov. 26, 1872.



Witnesses.

*Isaac A. Brumell.*

Inventor.

*David Heaton*

# UNITED STATES PATENT OFFICE.

DAVID HEATON, OF PROVIDENCE, RHODE ISLAND.

## IMPROVEMENT IN LACING-BUTTON HOOKS.

Specification forming part of Letters Patent No. 133,312, dated November 26, 1872.

*To all whom it may concern:*

Be it known that I, DAVID HEATON, of the city and county of Providence and State of Rhode Island, have invented a new and Improved Lacing-Button Hook, of which the following is a specification, referring to the accompanying drawing making part of the same, in which—

Figure 1 is a front elevation of my improved lacing-button hook; Fig. 2 is a side elevation, and Fig. 3 is a rear elevation, of the same; Fig. 4 is a plan; Fig. 5 is a vertical section by the line *x x* of Fig. 1; Fig. 6 is a plan and cross-section by the line *a a* of Fig. 1; Fig. 7 represents the outline of the sheet-metal blank, from which said lacing-button hook is made; and Fig. 8 is a diagram of a side elevation of the button-hook, illustrating the effect of the angle-brace *a b c*.

Similar letters mark like parts in all the figures.

My invention relates to the combination of a hook with two fastening-prongs in front and a button-head with a back-stay and a fastening-prong at the rear of the hook, the object being to stiffen the bend of the hook and provide a firm fastening both at the front and rear of the same in the apparel.

In the drawing, S is the hook, *e e* are the fastening-prongs in front, B is the button-head, I is the back-stay, and *e*<sup>3</sup> the fastening-prong at the rear. The said lacing-button hook is made from the blank, Fig. 7, cut from sheet metal. The hook S is formed by bending the long shank S of the blank, and the fastening-prongs *e*<sup>1</sup> *e*<sup>2</sup> by bending the two pointed branches *e e* of the shank S down at right angles. The button-head B is formed by concaving the disk B of the blank and bending it over the hook. The back-stay I is the short shank I of the blank bent at right angles with the button-head; and the narrower continuation *e*<sup>2</sup>, below the shoulders *t t* of said shank, forms the rear fastening-prong *e*<sup>3</sup>. The button-head B and back-stay I, combined, form a surrounding angle-brace, *a b c*, which stiffens and supports the bend S of the hook thus inclosed within it, as shown in Fig. 8. The fastening-prongs *e*<sup>1</sup> *e*<sup>2</sup> *e*<sup>3</sup> are put through the material of the apparel and bent and clinched together on the under side, as shown in Fig. 8, to fasten the lacing-hook both at the front and rear. The fork *f* of the shank in front and the

shoulders *t t* of the back-stay I at the rear form bearings on both sides of the hook S to keep it upright for lacing.

The advantage of the rear-fastened back-stay, combined with the button-head, is that it prevents the hook from yielding to be pulled out straight by the strain on the lacing. The advantage of the two fastening-prongs in front of the hook is that two are better able than one to withstand the direct strain of lacing, which depends almost wholly on the permanence of the front fastening. The advantage of the fastening in the rear, besides the fastening in front of the hook, is that the rear is held firmly in position to support the front fastening by preventing the hook from tipping backward, and thus releasing (or partly so) the hook from a direct bearing against its curve, as intended, with the effect to straighten out the hook and spoil it for the purpose so that another must be put in its place.

In some cases, as in the larger sizes of button-hooks, three instead of two fastening-prongs may, with economy, be employed in front of the bend of the hook by arranging one of great strength foremost in front, and two lesser ones at the sides of the shank, but always with the prong *e*<sup>3</sup> at the rear as the fourth, as a rear support and to give additional permanence to the other three as a fastening; but I prefer only three fastening-prongs, and that the three shall be arranged substantially as before described, because the fewer and the further separated these prongs the less liable they are to completely divide the material of the apparel into which they are fastened, and in consequence tear out under a severe strain.

Having described my invention, I wish it understood that I am aware that lacing-button hooks of different constructions have been previously known and used. I therefore disclaim all other lacing devices than that embraced in the following construction, to wit:

I claim—

The construction of the curved lacing-hook S with a back-stay, I, extending from the button-head down at the rear of said hook, and terminating in a fastening-prong, *e*<sup>3</sup>, substantially as shown and described.

DAVID HEATON.

Witnesses:

L. C. FUERE,  
ISAAC A. BROWNELL.