

(No Model.)

C. VARLOT.
Lacing Staple.

No. 233,579.

Patented Oct. 19, 1880.

Fig. 1



Fig. 2

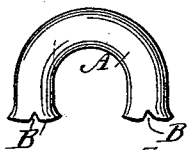


Fig. 3

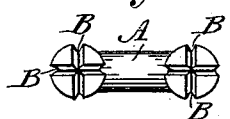


Fig. 4

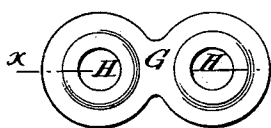


Fig. 5



Fig. 6

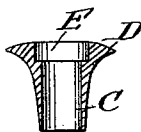


Fig. 7

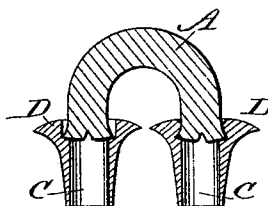


Fig. 8

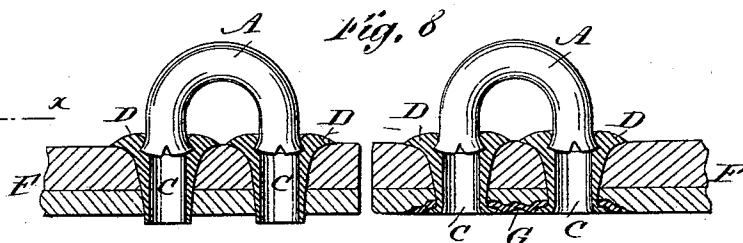


Fig. 9

WITNESSES:

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

CLAUDE VARLOT, OF GRENOBLE, FRANCE.

LACING-STAPLE.

SPECIFICATION forming part of Letters Patent No. 233,579, dated October 19, 1880.

Application filed September 3, 1880. (No model.) Patented in France March 23, 1880.

To all whom it may concern:

Be it known that I, CLAUDE VARLOT, of Grenoble, France, have invented a new and Improved Lacing-Staple, of which the following is a specification.

The object of my invention is to provide a new and improved lacing-staple which is simple in construction, which can be firmly attached to the leather or other material, and permits of lacing without passing the lace or string through apertures in the article to be laced.

The invention consists in a lacing-staple formed of a U-shaped wire, to each end of which an eyelet is attached, which is passed through the material and headed over in the ordinary manner, thereby attaching the lacing-staple to the material.

In the accompanying drawings, Figure 1 is a perspective view of a shoe provided with my improved lacing-staples. Fig. 2 is a front view of the U-shaped wire of my improved lacing-staple. Fig. 3 is a plan view, showing the ends of the same. Fig. 4 is a cross-sectional elevation of an eyelet to be attached to the ends of the U-shaped wire. Fig. 5 is a plan view of the washer-plate for my improved lacing-staple. Fig. 6 is a cross-sectional elevation of the same on the line *x x*, Fig. 5. Fig. 7 is a longitudinal sectional elevation of my improved lacing-staple, showing one of the eyelets before and the other after being firmly secured to the U-shaped wire. Fig. 8 is a longitudinal sectional elevation, showing it without and with the washer-plate. Fig. 9 is a longitudinal sectional elevation, showing a modification.

A wire, A, is bent into the shape of a U, or of a semicircle, and the ends of this bent wire are spread by stamping two crossing grooves or cuts, B B, into them. The spread ends of the wire A are passed into the upper end of an eyelet, C, which increases in thickness from the bottom toward the top, where it forms a flange, D.

The eyelet is provided with an annular shoulder, E, near the upper end of its longitudinal perforation, against which shoulder the end of the wire A rests, as shown in Fig. 7. The two eyelets C C and the bent wire A are placed into a die in the position shown

in Fig. 7, and by means of a punch the upper ends of the eyelets are contracted or pressed against the wire, so that the spread ends of the wire are closely surrounded by the metal of the eyelets, which are thus firmly attached to the wire in the manner of a dovetail fastening, as shown in Fig. 8. The eyelets C are then passed through apertures in the cloth, leather, or other material, F, to which they are to be attached in such a manner that the under side of the flange D rests upon the outer surface of the material, and the inner ends of the eyelets project from the inner surface of the material, which may consist of one or more layers.

A washer-plate, G, provided with two apertures, H, corresponding in position to the eyelets of the bent wire A, is passed over the inner projecting ends of these eyelets, which projecting ends are then doubled over or pressed outward to secure the eyelets, the washer-plate G, and the bent wire A to the material F.

I prefer to use a double washer-plate, but may use two single washers, if desired.

The U-shaped wire A may also be attached to the material F by passing the shanks of the wire through apertures in the material, passing a washer-plate over the ends of the shanks, and then spreading these shanks, either by means of the crossing cuts or grooves, as described, or by upsetting the metal of the shanks, as shown in Fig. 9. In either case a strong staple, which is held rigidly in the leather or material, is formed.

No projections are required on the inside. The edges of the pieces to be united can be placed closely to each other, and the lace or string need not pass through the material, thus facilitating lacing and unlacing very considerably.

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

1. As an improved article of manufacture, a lacing-staple made substantially as herein shown and described, and consisting of a U-shaped wire having eyelets attached to the ends of the shanks, as set forth.

2. In combination with the U-shaped wire A, the eyelets C C and the washer-plate G, adapted to be secured to the material F, substan-

tially as herein shown and described, and for the purpose set forth.

3. The eyelet C, made substantially as herein shown and described, tapering from the bottom toward the top, with a flange, D, and with an annular shoulder, E, at the upper end of its longitudinal aperture, as and for the purpose set forth.

4. The improvement in the art of manufacturing lacing-staples, consisting in spreading the ends of a suitably-bent wire, inserting the

spread ends into eyelets and then contracting the upper ends of said eyelets around the ends of the wire, all substantially as set forth, for the purpose described.

The above specification of my invention signed by me this 11th day of August, 1880.

CLAUDE VARLOT.

Witnesses:

JULES LE SMITH,
B. F. PEIXOTTO.