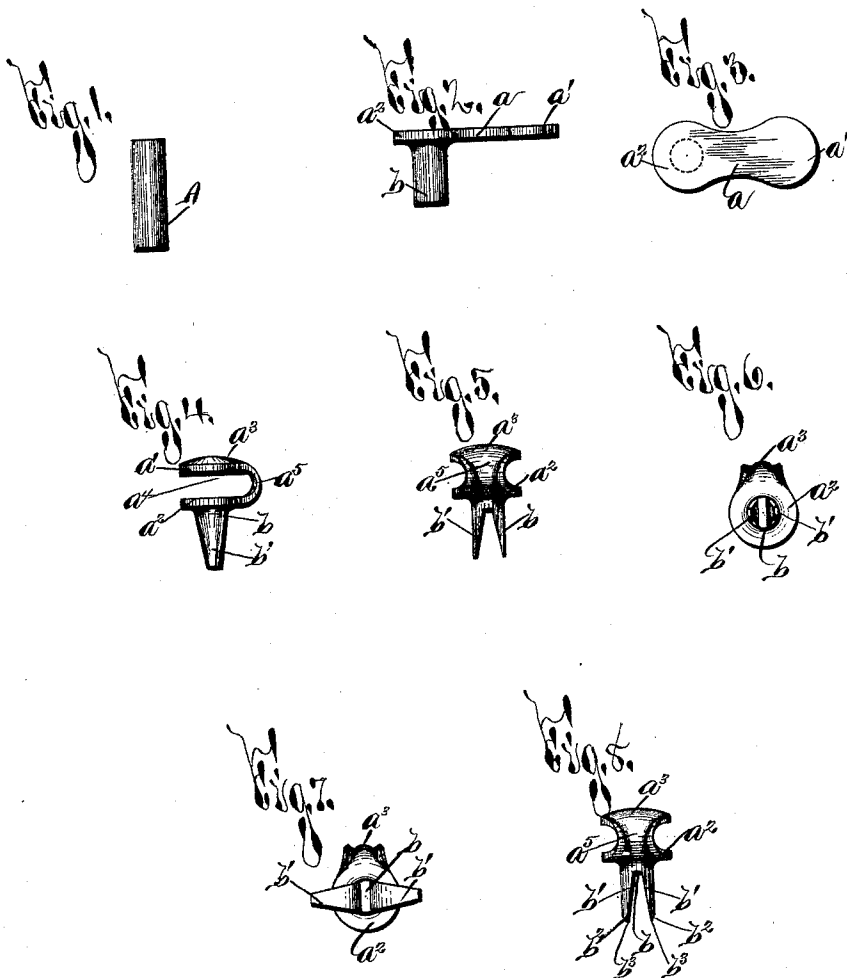


(No Model.)

J. L. THOMSON & J. J. UNBEHEND.
LACING HOOK.

No. 434,895.

Patented Aug. 19, 1890.



WITNESSES:

H. C. Chase,
L. M. Baxter.

INVENTORS

Judson L. Thomson
Jacob J. Unbehend
BY
Hoy, Wilkinson & Payne
ATTORNEYS

UNITED STATES PATENT OFFICE.

JUDSON L. THOMSON AND JACOB J. UNBEHEND, OF SYRACUSE, NEW YORK,
ASSIGNORS TO THE JUDSON L. THOMSON MANUFACTURING COMPANY,
OF PORTLAND, MAINE.

LACING-HOOK.

SPECIFICATION forming part of Letters Patent No. 434,895, dated August 19, 1890.

Application filed February 27, 1890. Serial No. 341,929. (No model.)

To all whom it may concern:

Be it known that we, JUDSON L. THOMSON and JACOB J. UNBEHEND, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Lacing-Studs, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

Our invention relates to an improved lacing-stud applicable for various purposes, and has for its object the production of a simple, readily-constructed, and effective lacing-stud, which is produced from wire and is easily and quickly inserted into the desired articles without any liability of the attaching-prongs of the stud becoming bent or turned by the material through which they are passed; and to this end it consists, essentially, in a blank having at its lower extremity a pair of attaching-prongs formed by cutting away the central portion of the shank and having at its top a loop, formed by bending the upper part of the blank upon itself, whereby a lace or cord may be readily engaged with said upper part.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 is an elevation of a portion of a wire suitable for forming the same into our improved lacing-stud. Fig. 2 is an elevation of the lacing-stud as partly formed, showing the same as consisting of a solid lower portion or shank and a flattened upper plate adapted to be folded upon itself. Fig. 3 is a top plan view of the lacing-stud as shown in Fig. 2. Fig. 4 is an elevation of the completed lacing-stud. Fig. 5 is an elevation of the lacing-stud as shown in Fig. 4 and as taken at right angles to the plane thereof. Fig. 6 is a bottom plan of the lacing-stud. Fig. 7 is a bottom plan of the lacing-stud, shown with its prongs clinched for securing the said stud in operative position; and Fig. 8 is an elevation similar to Fig. 5, illustrating the attach-

ing-prongs of the lacing-stud as provided with beveled outer edges, whereby the extremities or cutting-points of said prongs are sharpened.

A represents the strip of wire, of suitable size and material to enable the production of a lacing-stud of the desired size and strength. One extremity of this strip of wire A is upset or flattened into a plate *a* by means of any ordinary or special form of tool or die which may effect the desired result in one or more operations, as may be desired. As seen in the drawings, and particularly Figs. 2 and 3 thereof, this plate *a* extends at *a'* a considerably greater distance beyond the remaining cylindrical portion *b* of the blank A than the opposite part *a''* of said plate *a*. Suitable tools or dies are then operated to bend or turn upward the portion *a'* and fold the same upon itself, forming the loop *a³*, with the space *a⁴* interposed between the under side of the top portion of said loop and the part *a''* of the flattened plate *a*. This flattening of the upper portion of the section of wire and turning of the same into a lace-engaging loop may be effected by any desired number of operations and any suitable form of tool or die to which we are not herein restricted, as the said features are immaterial and form no part of our present invention.

If desired, and as illustrated, the back or union portion *a⁵* of the loop *a³* may be rounded backwardly for the purpose of preventing cutting of the lace or cord engaged with the lacing-stud. The cylindrical shank *b* of the stud is then bifurcated, as best shown in Figs. 5, 6, 7, and 8, thereby forming attaching-prongs *b'*, which may be of any suitable and desirable form and construction. As illustrated, and as preferably constructed, these prongs are so formed as to taper or decrease in thickness from their base to their extremity, in order that they may readily enter the article to which the lacing-stud is to be attached and with absolutely no liability of inward bending, which result is due to the taper or wedge shape. Moreover, with this tapering construction of the prongs the said prongs may be more readily clinched when contacted with

a suitably-shaped die, since they spread or roll outward with an easy and gradual curve, since the strength of the prongs gradually decreases from the base to the extremity. As shown in Fig. 4, the prongs taper from their base to their extremity, or, in other words, decrease in thickness, and as they are of rounding contour they are also caused to taper widthwise, and this is also of especial advantage, since the said prongs are thereby made still stronger at their base than at their extremities, and their entrance and clinching are further facilitated.

With this construction of a lacing-stud it is evident that a hole is not punched into the material to which it is affixed, which is a feature of great advantage, since the strength and appearance of the material is not diminished or deteriorated, and, moreover, the stud is more strongly secured than if for securing the same a hole was necessitated in said material.

At Fig. 8 we have shown the attaching-

prongs as provided with beveled outer faces b^2 , for forming central cutting-edges b^3 .

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

A lacing-stud comprising the hook, the flanged plate a^2 , and solid prongs extending from the under side of said plate, of less diameter than the plate, said prongs tapering widthwise and decreasing in thickness toward their lower extremities and having rounding outer sides and substantially flat inner sides, substantially as described.

In testimony whereof we have hereunto signed our names, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 25th day of February, 1890.

JUDSON L. THOMSON.
JACOB J. UNBEHEND.

Witnesses:

CLARK H. NORTON,
L. M. BAXTER.