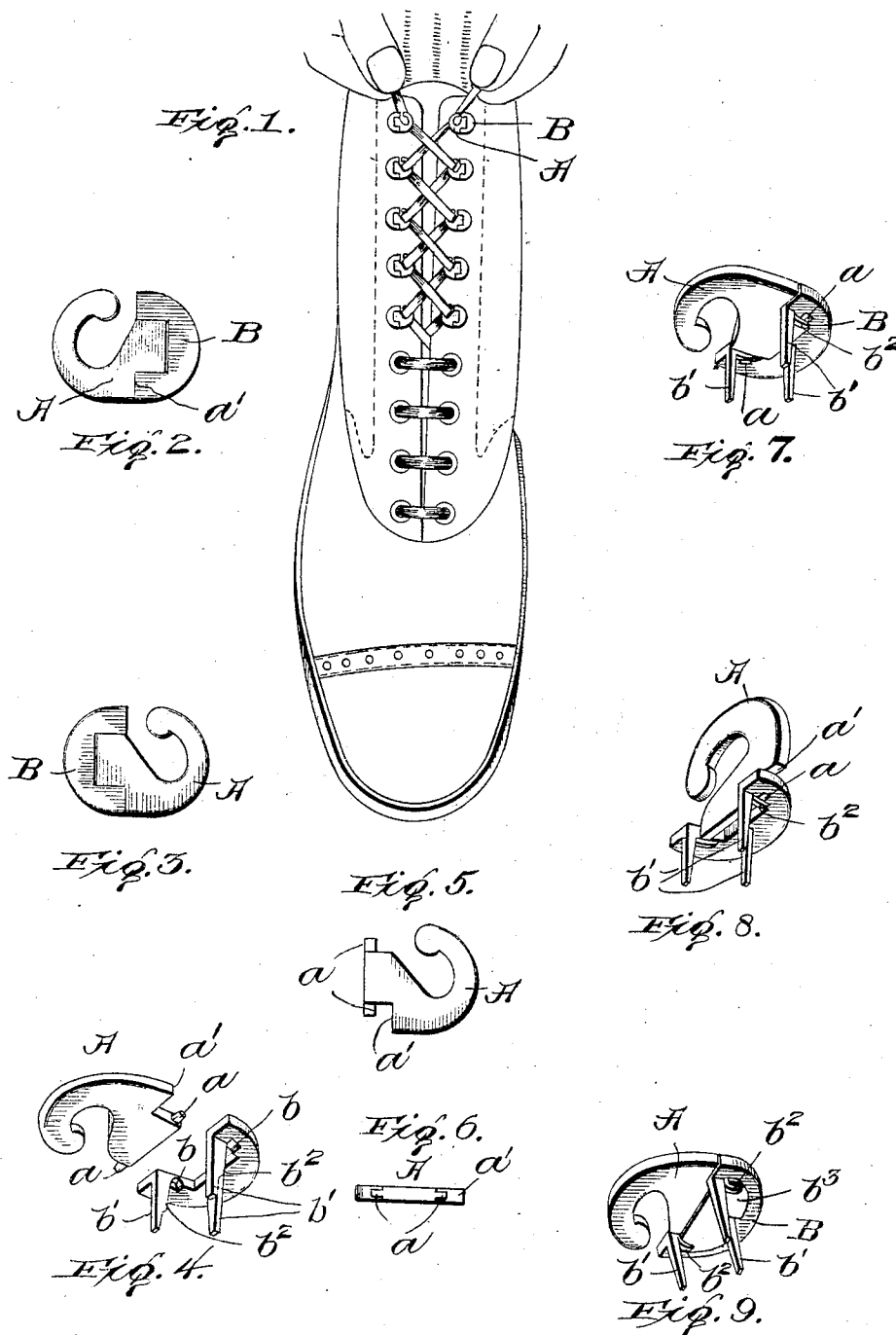


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H. O. WHYMAN.
LACING HOOK.

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UNITED STATES PATENT OFFICE.

HORATIO OLIVER WHYMAN, OF AURORA, ILLINOIS.

LACING-HOOK.

No. 832,107.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HORATIO OLIVER WHYMAN, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Lacing-Hooks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to fastening devices for boots, shoes, or garments wherein lacings are employed to hold confronting edges together; and it has reference more particularly to lacing-hooks the shanks of which are pivotally secured to suitable attaching members fastened on the leather or material of the article to be laced in such manner that the hooks extend inward from their attaching members or toward the confronting edges to be laced and lie flatwise on the leather or material. Examples of such devices are illustrated and described in my former Letters Patent of the United States, numbered 625,483 and 640,609 and dated May 23, 1899, and January 2, 1900, respectively, on which devices the present invention is an improvement.

In order to overcome the objections incident to using lacing-hooks having protuberances or projections rising perceptibly above the surface of the article to which the hooks are attached, whereby they catch onto and injure or tear the clothing of the wearer, as well as present an ungainly appearance, I have heretofore invented and patented the flat lacing-hooks illustrated and described in the above-named patents, Nos. 625,483 and 640,609. Such flat lacing-hooks as heretofore constructed consist each of two members pivotally connected together and adapted for attachment to one side only of the shoe or other article, so that different devices of similar construction, one for the right side and the other for the left only, must be used on the opposite edges of the parts to be laced, and consequently much care must be exercised in keeping the devices separate. It has been found in practice that the unassembled parts, some of which are adapted for use upon the right side only and some upon the left side only of the article, are liable to be and are frequently mixed together, causing much trouble, inconvenience, and loss of time in properly separating, se-

lecting, and assembling those parts which belong on the right side of the shoe or article from those which belong on the left side thereof, and even when previously assembled for attachment to the proper sides of the article the two kinds of assembled devices may become mixed, as frequently occurs, and much confusion results from the necessity of separating the two kinds of devices, while in case their assembled parts become disconnected the trouble and confusion are aggravated.

One object of my present invention is to provide an improved lacing-hook of the character referred to possessing all of the advantages of the previously-patented hooks and in addition the feature of reversibility, adapting the hook proper and its attaching member to be used on either side of the shoe upper or other article and interchangeably upon opposite sides of the article, thus avoiding the trouble, inconvenience, and loss of time which results from selecting and separating right-hand from left-hand hooks and attaching members for use upon that side of the article on which the particular lacing-hook selected is adapted to be used. This desirable result is accomplished with my improved reversible lacing-hooks by merely fastening the attaching members to the shoe or article with their open or U-shaped portions confronting and securing the hooks thereto upon one side in a reverse position to that which they occupy on the other side of the article.

Another object of my invention is to provide improved means for forming and maintaining an effective hinge or pivotal connection between the hook proper and its attaching member and to provide for assembling and connecting such parts either before attachment to the article by improved means for that purpose or as they are applied to the article, in which latter case the parts may be held together in such hinged relation by aid of the material itself, without utilization of the aforesaid means for securing them when previously assembled, so that the necessity of so previously assembling and connecting them together as heretofore is obviated.

Further objects are to adapt the device to lie more closely against the material, and consequently to hold more firmly, and to simplify the construction and increase the efficiency of the device.

With the above-stated objects in view the

invention will hereinafter be first fully described with reference to the accompanying drawings, which form a part of this specification, and then more particularly pointed out in the claims following the description.

In said drawings, wherein corresponding parts in the different figures are indicated by the same reference-symbols, Figure 1 represents a front view of a shoe having the opposite edges of its upper or vamp provided with my improved lacing-hooks and secured together by a lace or string engaging such lacing-hooks. Fig. 2 is an enlarged plan view of my improved lacing-hook as used on the left side of the shoe, (or on the right-hand edge of the vamp looking at Fig. 1.) Fig. 3 is a similar plan view of the lacing-hook as used on the opposite side or right side of the shoe, the attaching member being turned around and the hook merely reversed with relation thereto or turned over. Fig. 4 is an under perspective view of the hook and attaching member separate or unassembled. Fig. 5 is a plan view of the hook proper. Fig. 6 is an inner end view of the hook looking toward the shank or hinged part. Fig. 7 is an under perspective view of the lacing-hook with the hook proper and its attaching member assembled and connected together ready for attachment to the shoe or other article. Fig. 8 is a similar perspective view of the same, showing the hook proper raised or turned upward and outward on its pivot; and Fig. 9 is an under perspective view of the device, showing a modified means of securing the hook proper to its attaching member.

In Fig. 1 it will be seen that the opposite edges of the shoe quarters or vamp are secured together by a lace or shoestring inserted through the usual series of eyelets at the lower portions of the quarters and engaging a series of my improved lacing devices above said eyelets. Each of said devices consists of a hook proper and an attaching member pivotally connected together, as shown, the hook being disposed flatwise of its attaching member, extending inward therefrom and lying flat against the shoe quarter or upper.

The lacing-hook proper (indicated by the letter A) consists of a suitably-formed hook portion having a flat shank extending therefrom in the plane of the hook, shaped to conform to the opening or slot between the arms of the attaching member B and provided with opposite pivot pins or pintles *a* for pivotal engagement with said attaching member. The pintles *a* are in alinement and immediately disposed both horizontally and vertically with relation to the hook, or, as shown in Fig. 5, said pintles are accurately located to extend equal distances from the shank, and, as shown in Fig. 6, they are also offset equal distances from the opposite flat faces of the shank or laterally disposed in the medial

plane thereof. This is in order that when the shank of the hook is fitted between the arms of the attaching member, its pintles being preferably seated in sockets or recesses *b* on the under side of the latter, both the shank and pintles may always occupy the same position with respect to the attaching member and that no portion of the shank or pintles may project a greater or less distance, either to the right or left or perpendicularly, whether the hook be disposed with relation to said attaching member either to the right or left, as indicated in Figs. 2 and 3, thus rendering the hook reversible or capable of use either on the right or left edge of the shoe-upper.

The attaching member B consists of a substantially U-shaped or semicircular flat plate or body having suitable means for securing it to the shoe-upper or other articles, preferably a number of depending prongs *b'*, said prongs being preferably formed integrally with said body and upon the inner edge thereof in order that when the prongs are inserted through the leather or material they may be bent outward from and across the arms of the attaching member, and thus more firmly and securely fasten said member to the material than if the prongs were projected from the outer edge or intermediate portion of the body, in which case it would be necessary to bend the prongs inward in order to secure a firm fastening, since otherwise the prongs would easily be torn out by a slight pull on the attaching member. In the present instance three prongs are shown, two being located at the front ends of the arms of the U-shaped plate and one at the middle thereof.

Both ends of the U-shaped attaching member are shown cut square across to conform to a correspondingly-shaped shoulder *a'* on the hook, the shank of which fits between the arms of the said attaching member with its pintles on the under side thereof and, as before stated, preferably in sockets or recesses *b*. Both arms of said attaching member are also shown of equal lengths, whereby said member is adapted for use on either the right or left edge to be laced merely by placing the same in opposite or confronting positions on said opposite edges, and hence both the hook and attaching member may be used on either side of the shoe or article, with the resulting advantages primarily pointed out.

To adapt the assembled parts to lie flatwise upon the surface of the material to which they are attached with both their upper and lower surfaces flush, as is preferable, or without any appreciable projection from either the hook or the attaching member, whether applied to the right or the left side of the shoe-upper or other article, I preferably provide the recesses or sockets *b* on the under side of the U-shaped plate, preferably at the base of and just behind the front prongs *b'*, of a sufficient depth to receive the pins or pintles

on the shank of the hook and adapt the latter to rest flush with both the upper and lower surfaces of the attaching member, whether the hook be used either as a right or left hand one, the hooks being offset equal distances from the opposite flat faces of the shank, as previously explained. Furthermore, such sockets or recesses serve to confine the pintles in proper position against any endwise thrust caused either by pulling or pushing on the hook, and hence when the attaching member is firmly secured to the material the pintles will be confined in their recesses by the material itself, even though the attaching-prongs be dispensed with, as might be desired in some cases, since, as before stated, the attaching member may be secured to the material by other means than the prongs. It follows that the hook proper and its attaching member may be assembled as they are applied to the material, the pintles being simply clamped in their recesses as said plate is attached, between the material and the U-shaped plate by means of the prongs or otherwise; but for greater ease in assembling the parts and attaching the hooks to the material I may employ means by which the hook proper may be permanently secured to the attaching member so as to have a hinged or pivotal connection therewith, and to this end it has been found desirable to form the front prongs b' of the attaching member of increased width from points somewhat above their extreme lower ends to the bases of the prongs, as shown at b^2 , in order that said widened portions of the prongs may be slit and turned over the pintles, as shown in Figs. 7 and 8, thereby providing a permanent pivotal connection, which, however, is capable of disconnection, if desired, by simply turning or bending back the split portions of the prongs. The hook and attaching member may be then assembled and pivotally connected before being attached to the material, or they may be so assembled as they are applied and the slit portions of the prongs afterward turned over the pintles. In some cases it may be found desirable to use a plate which is denoted by the symbol b^3 in Fig. 9, having notches fitting about the prongs, said plate being interposed between the attaching member and shank of the hook and the bent or overturned slit portions of the prongs.

I thus provide a very efficient and reliable reversible hook and attaching member capable of being used interchangeably or in reverse positions one with the other upon either side of the shoe-upper or article to which they are attached, and at the same time I provide means whereby the hook and attaching member may be pivotally connected by the described attaching means before they are attached to the shoe or other article, or they may be used singly and the pivotal connections effected with the aid of the material

to which they are secured by merely fitting the pivots of the hook in the sockets of the attaching member and fastening the latter to the material.

In an application for Letters Patent filed by me concurrently herewith, Serial No. 244,815, I have illustrated, described, and claimed a hinged or pivoted lacing-eyelet consisting of an eye member and an attaching member pivotally connected together and embodying the same features of reversibility and improved means for effecting their pivotal connection herein described. While in the present specification I have referred to such features of improvement as applied to lacing-hooks, it is apparent that they are equally applicable to hinged lacing-eyelets, and hence it is to be understood that the following claims are to cover such a device, and the term "hook" or any similar term is to include the eye member or eyelet proper of a hinged lacing-eyelet as well as the hook proper of a lacing-hook such as herein shown.

As illustrated in Fig. 1 of the drawings, the lacing-hook is arranged with its open throat toward the top of the shoe, which arrangement, however, is not essential.

My improved lacing-hook, in addition to other advantages, effectually overcomes a very serious objection to rigid hooks, whether upright or semiflat, in which when the lace is drawn in the manner of lacing there is a downward bearing on the anchorage which causes it to tip over and bear uncomfortably on the foot, whereas with my improved hook this downward bearing is overcome by the hinge and its unique location on a plane with the anchorage and the material to which it is attached.

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

1. A lacing device comprising a hook having a shank with opposite pivots thereon, and a substantially U-shaped attaching member embracing said shank having oppositely-disposed sockets or recesses in its under side in which said pivots are seated and confined when the parts are attached to the shoe-upper or other article, the axes of both pivots being equally spaced from the top and bottom faces of the shank.

2. A lacing device comprising a hook having a shank substantially in the plane of the hook and provided with opposite pivots thereon, and a substantially U-shaped attaching member embracing said shank and having oppositely-disposed recesses in the inner edges and under sides of its arms adapted to receive said pivots for pivotally connecting said parts, said attaching member having bottom pieces or tongues bent over said recesses to confine the pivots therein.

3. A lacing-hook-attaching member consisting of an approximately semicircular

- plate having prongs depending from its inner edge and oppositely-disposed recesses in said edge to receive the pivots of a hook inserted between the arms of said plate, the prongs adjacent to said recesses having widened portions above their extremities adapted to be split lengthwise and bent or turned over said recesses for confining said pivots in said recesses.
- 10 4. A flat reversible lacing-hook having a shank with opposite pivots thereon, in combination with a substantially semicircular plate embracing said shank and having oppositely-disposed recesses therein receiving said
- 15 pivots and having prongs on its inner edge for fastening to the material of a shoe or other article, and having portions split from said prongs and bent over said pivots for confining them in said recesses.
- 20 5. A flat lacing-hook comprising a hook proper having a flat shank lying in the plane of the hook and having oppositely-disposed pintles arranged in the medial plane of the shank and offset substantially equally from
- 25 the opposite flat faces of the shank, and a U-shaped attaching member adapted to embrace said shank and having opposite sockets or recesses in the under sides of its arms and

in the inner edge thereof adapted to be pivotally engaged by the pintles of the shank, in either of the two reversed positions of the hook, the relation of the pintles and sockets being such that the shank and attaching member are flush on both sides in either position of the hook.

6. A reversible lacing device comprising a flat lace-engaging member having a shank lying in the plane thereof and provided with opposite alined pintles extending substantially equal distances from the longitudinal middle of the shank and offset equally from the opposite faces thereof, and a flat U-shaped attaching member between whose arms said shank is fitted, the arms of said member having oppositely-disposed sockets at the inner edges thereof and on the under sides to receive said pintles, the depth of said sockets being sufficient to cause the two members to be flush on their opposite sides.

In testimony whereof I affix my signature in presence of two witnesses.

HORATIO OLIVER WHYMAN.

Witnesses:

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