Fastener for Laced Closures

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8
The present invention relates to a fastener or tightening device for laced closures. It is particularly adapted to use on the laced closure of a shoe.

It has long been common practice with laced closures to tie the loose ends in a knot in order that the laces may be kept tight. Conversely, the knot must be untied in order that the laces may be loosened. This is inconvenient and a source of annoyance when repeated frequently, as well as, in some instances, a source of danger where it is essential that the closure be open or closed quickly.

The present invention is particularly useful when applied to a shoe since its advantages are many, especially where the wearer of the shoe is a child or incapacitated person unable to tie and untie laces for himself. The present invention makes it possible for him to remove and put on his shoe without disturbing the knot once the tighter is installed and adjusted to the particular shoe and foot. This, of course, applies equally to adults who can enjoy the convenience of quickly removing and replacing their shoes without the necessity for repeated tying and untying of the knot.

The present invention eliminates the necessity for repeated tying of the laces yet still retains the comfort and effectiveness of a laced shoe since the laces are retained but the repeated tying is eliminated.

It is, therefore, an object of the present invention to provide an improved tighter or fastener for a laced closure wherein repeated tying and untying of a knot becomes unnecessary to opening or closing of the closure.

It is also an object of the present invention to provide a novel and useful laced closure tighter of the aforementioned type which includes provision for carrying and displaying identification, decoration or advertising data.

In the drawings:

Figure 1 is a perspective view of a shoe having a laced closure with the tighter in place thereon.

Figure 2 is a top or plan view of the tighter or plate showing its configuration and the display material carried by it.

Figure 3 is a longitudinal cross-section of the tighter showing its display slot and its notch and aperture.

Figure 4 is an external side or elevation view of the tighter showing the display slot.

Figure 5 is a side or elevation view of the shoe and tighter combination showing the tighter in the open or loosened position.

Figure 6 is a side or elevation view of the shoe and tighter showing the tighter in the closed or tightened position.

Figure 7 is a plan view of an alternate plate or tighter showing a single notch and a single aperture.

Figure 8 is a perspective view of a shoe laced with the knot at the toe end and including the present invention with the tighter lifted up to show its underside.

With reference to Figure 1, a typical normally-laced shoe 10 having laces 11 is shown with laced tighter 12 in its closed or fastened position. It will be seen that tighter 12 is in position directly over the laced closure 19 and rests upon it with the unlaced portion or ends of laces 11 not tied until they have passed through notches 14 in one edge of tighter or plate 12, thence along the upper surface of plate 12 and then through apertures 13 in plate 12, apertures 13 passing through plate 12 as shown in Figure 3. Laces 11 may be crossed on top of plate 12 if desired.

Tighter 12 is preferably made of a transparent material such as polystyrene plastic.

After laces 11 pass through aperture or apertures 13 they are tied in a suitable knot 15, such as a bowknot or other knot sufficiently large in bulk to prevent its passage through aperture 13, the knot 15 serving as a retention means. Laces 11 are left just long enough that when tighter or plate 12 is placed in the position shown in Figures 1 or 6 the laces 11 will be placed in tension. Lace 11 thus pulls towards the shoe 10 and presses the crotch 14b of notch 14 of plate 12 tightly toward the shoe 10. The extensions or ears 17 of the notches 14, shown in plan form in Figure 2, then act in the manner of a lever to hold tighter 12 firmly in place on the laced closure 19 of the shoe 10 so that lace 11 will not become loosened inadvertently nor will plate 12 annoyingly move up and down as the wearer walks.

The tension in laces 11 can be freed immediately by a simple but positive upward rotary motion in the direction of the arrow in Figure 1, i.e., by lifting the knot end of the tighter 12 upward beyond the vertical position. The lacing 11 thus is loosened and the shoe 10 can be removed without the necessity of untying the knot 15. The shoe 10 is again fastened by simply pulling up the laces 11, placing them in notches 14 and then moving the knot end of tighter 12 with a downward rotary motion in the direction of the arrows in Figure 5. The laces 11 are kept in notch 14 until tighten 12 is fully down upon the laced closure 10 as shown in Figure 6 and the laces 11 again become tight.

By means of the present invention, the shoe 10 can be put on the foot of the wearer and removed therefrom repeatedly without disturbing the knot 15. Adjustment of the lace tension to the liking of the wearer is accomplished by untying knot 15, shortening or lengthening the lace 11 and then retying knot 15. This is not necessary, however, once the proper adjustment has been made.

It will be seen that with the present invention knot 15 cannot press upon the top of the instep to cause the painful pressure sometimes experienced by wearers of shoes laced in the ordinary manner, since knot 15 is not located in that position.

Provision is made in the plate 12 for the inclusion of a display card such as an identification card, advertising material, or a suitable picture. In Figure 4 is shown a side or edge view of plate 12 showing a substantially paralleled-sided, centrally-located transverse slot 16 through plate 12 from edge to edge. A card, picture or the like is made just large enough to slide into slot 16 with a push fit so that it will stay in place during normal usage of tighter 12 but yet can be easily removed if it is desired to change the identification data or other material. The material is easily visible through the transparent material of plate 12.

It is possible that the wearer will prefer to lace his shoes, as shown in Figure 8, in a manner opposite to that usually employed, by tying the knot at the toe end of the
shoe after the shoe is laced in that direction. This leaves a loop end at the top of the laced portion which leads from the laced closure 19 through notch 14, along the upper surface of plate 12, down through one of apertures 13, up through the other aperture 13, again along the surface of plate 12 and thence through notch 14 back to the laced closure 19. The tightener 12 is used in the same manner as previously described and the tension in the laces 11 is adjusted in the same manner as previously described except that the knot 15 is located at the toe end of shoe 10.

An alternate plan form for plate or tightener 12 is shown in Figure 7 wherein a single elongated notch 14a is provided instead of separate notches 14, and a single aperture 13a is provided instead of a plurality thereof. Notch 14a functions in the same manner as previously described for notches 14. Aperture 13a is used in a similar manner to apertures 13 except that the laces 11 both pass through the one aperture 13a after which a knot 15 is tied therein. In the event that a shoe 10 is laced with the knot 15 at the toe end, the loop or closed end 28 of the lace 11 is passed through aperture 13a and is thereafter knotted to prevent its passage back through aperture 13a, thus serving as a retention means restrainingly connecting lace 11 to plate 12.

While there have been shown and described and point out the fundamental novel features of the invention as applied to a preferred embodiment, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention. It is the intention therefore to be limited only as indicated by the scope of the following claims.

What is claimed is:

1. A device adapted to be laced and tied with the lace of a shoe to enable the alternate loosening and tensioning of the lace in the lace eyelets of the shoe without untying the ends of the lace comprising a generally rectangular plate having a projection at one end thereof adapted to engage the shoe adjacent the eyelets during lacing while the plate is in a generally vertical position, and there being at least one aperture formed adjacent the opposite end of said plate for receiving the ends of the lace extended under tension out of the eyelets around the projection end of and along one side of said plate, said lace being tied with a knot against the other side of said plate and substantially concealed thereby when said plate is pivoted about the projection to horizontal position to maintain the tension of the lace.

2. A device adapted to be laced and tied with the lace of a shoe to enable the alternate loosening and tensioning of the lace in the lace eyelets of the shoe without untying the ends of the lace having a projection at one end thereof adapted to engage the shoe adjacent the eyelets during lacing while the plate is in a generally vertical position, and there being at least one aperture formed adjacent the opposite end of said plate for receiving the ends of the lace extended under tension out of the eyelets around the projection end of and along one side of said plate, said lace being tied with a knot against the other side of said plate and substantially concealed thereby when said plate is pivoted about the projection to horizontal position to maintain the tension of the lace.

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