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SHOE LACE

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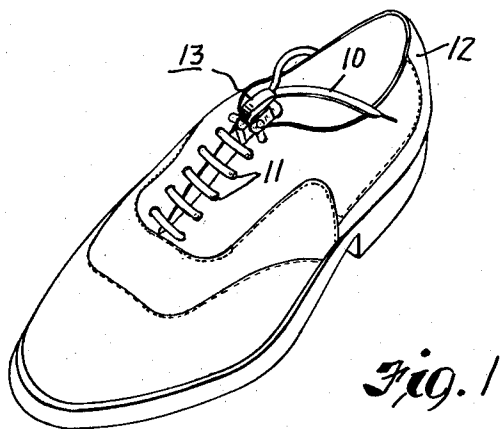


Fig. 1

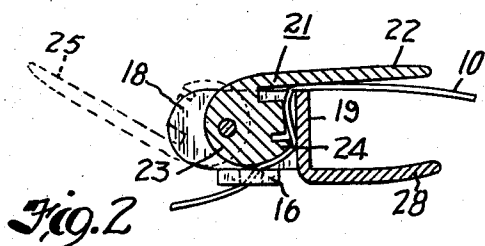


Fig. 2

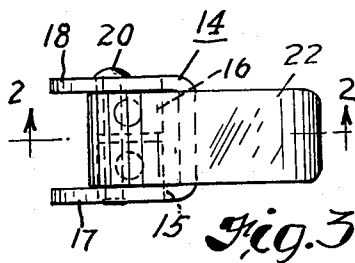


Fig. 3

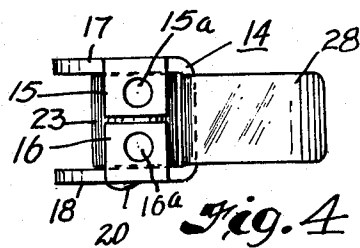


Fig. 4

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SHOE LACE

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3 Claims. (Cl. 24—120)

The present invention relates to a shoe lace, and, more particularly, to a shoe lace and clamp therefor which obviate the need for tying the lace in a bow or knot in order to fasten the lace with respect to a shoe or the like.

The necessity of "tying" one's shoes as by tying a shoe lace in a conventional bow is an inconvenience faced by everyone. Moreover, it is a common experience that the laces frequently become untied under even normal conditions of use. This is often the case, for example, with children. Additionally, the children are usually of such an age that they have not as yet learned to tie their own shoes, so that repeatedly tying the shoes is a source of annoyance to their parents.

The present lace is not subject to these objections. I provide a lace for shoes and the like having a clamping means which can almost instantly fasten the lace with respect to a shoe or other like member in which the lace is threaded. The clamping means holds the lace in position despite all normal forces and strains tending to loosen it. Further, the present lace and clamping means are of simple construction and can be easily used by a child to fasten or tie his own shoes.

It is therefore a principal object of the invention to provide an improved lace having clamping means.

Another object is to provide a lace and clamping means which fix spaced portions of the lace relatively to each other.

A further object is to provide a shoe lace and clamping means which are easily and quickly operated and which co-act tightly to hold the lace in a desired fastened position.

A still further object is to provide a shoe lace and clamping means in which the latter positions portions of the free ends of the lace in a spaced apart relation to facilitate a tight contact of each of the free ends by the clamping means.

Other objects will become apparent as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention consists of the features hereinafter fully described and particularly pointed out in the claims, the annexed drawing and following disclosure describing in detail the invention, such drawing and disclosure illustrating, however, but one or more of the various ways in which the invention may be practiced.

In said annexed drawing:

Figure 1 is a perspective view of a shoe embodying the present lace and clamping means.

Figure 2 is a longitudinal section of the clamping means of Figure 1, taken on the line 2—2 of Figure 3, and showing a portion of the shoe lace.

Figure 3 is a top plan view of the clamping means, and

Figure 4 is a bottom plan view of the clamping means.

Referring to the drawing, the free ends of a shoe lace or "string" 10 are threaded in a conventional manner through the eyelets 11 of a shoe 12 and then fastened at

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those portions of the free ends immediately adjacent the last or upper eyelets by a clamping means generally indicated at 13. The clamping means 13 comprises a U-shaped section generally shown at 14 having inwardly turned flanges 15 and 16 integral with the legs 17 and 18, respectively, of the section 14, and an outwardly directed wing 28 integral with a bight portion 19 of the section 14. The flanges 15 and 16 have openings 15a and 16a, respectively.

A rivet 20 pivotally journals a lever generally indicated at 21 between the legs 17 and 18. As shown in Figure 2, an arm 22 of the lever extends outwardly of the bight portion 19 of the section 14 and has a relatively large rounded inner end 23 which is eccentrically mounted about the rivet 20 to provide a camming action. This action is accentuated by a bearing lip 24 formed by cutting away a portion of the inner end 23 as illustrated in Figure 2.

In use the lever 21 is turned to an open position as indicated by the dotted lines 25 of Figure 2. The free ends of the shoe lace 10, which can be any of the known and standard types of laces, are then threaded through the openings 15a and 16a, passed upwardly across the bight portion 19 of the U-shaped section 14, and then over the edge of the bight portion and beneath the arm 22. It will be noted that the openings 15a and 16a space portions or lengths of the lace 10 in substantially parallel relation. This enables the camming or bearing lip 24 mutually to engage both portions in an even manner. Without this fairly uniform distribution of the clamping action, there could be a bunching of the free ends of the lace 10 with an inefficient and ineffective clamping action. Likewise, one portion or length of a free end of the lace 10 could be caught while the remaining portion or length of the other free end is capable of longitudinal movement, so that the lace could partially slip in the clamping means.

However, in the embodiment illustrated, when the lever 21 is moved to the closed position of Figure 2, the lip 24 bears against both lengths of the lace 10, and the lengths are fixed relatively to each other. At this time, the arm 22 of the lever 21 and the wing 28 secured to the bight portion 19 cooperate as finger grips to provide sufficient leverage to effect a tight clamp on the lace 10 between the camming lip 24 and the bight portion 19. However, only a slight pressure is needed to lift the arm 22 and loosen the grip on the lace 10 in order to pull the lace more tightly through the eyelets 11 of the shoe 12 or to loosen the lace and remove the shoe from the foot of a wearer.

It will now be apparent that I have provided an improved lace having a clamping means. The latter holds spaced portions of the lace in fixed relation to each other. The clamping means is easily and quickly operated, even by a child, and yet tightly holds a lace in a desired fastened position. The clamping means also stations spaced portions of a lace in a spaced apart substantially parallel relation so that the clamping means effectively acts on each portion with substantially the same pressure.

Other forms embodying the features of the invention may be employed, change being made as regards the features herein disclosed, provided those stated by any of the following claims or the equivalent of such features be employed.

I therefore particularly point out and distinctly claim as my invention:

1. In combination, a shoe lace, a clamp adapted effectively to fasten the lace with respect to a shoe in which the lace is threaded, said clamp comprising a U-shaped section having inwardly turned flanges from the legs thereof and an outwardly turned wing from the bight

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portion thereof, said flanges having openings, said openings being spaced apart to station lengths of the free ends in substantially parallel non-contacting relation, said lace having its free ends extending through the flange openings past the bight portion and over an edge thereof in such non-contacting relation, a lever journalled for rotation between the legs of said U-shaped section and having an arm extending past the bight portion in the general direction of the wing, said arm and wing cooperating to serve as finger grips, said lever having a camming portion adjacent its inner end to cam simultaneously against each of the non-contacting lengths of the lace extending past said bight portion upon pivoting of the lever to fix said lengths of the free ends relatively to each other.

2. In combination, a shoe lace, a clamp adapted effectively to fasten the lace with respect to a shoe in which the lace is threaded without requiring knotting or otherwise intertwining the lace, said clamp adapted to be free of such shoe and comprising a U-shaped section having inwardly turned flanges from the legs thereof and an outwardly turned wing from the bight portion thereof, said flanges having openings spaced apart generally transversely of the clamp to separate lengths of the lace disposed within the clamp into a spaced non-contacting position and to direct such lengths in a substantially parallel relation through the clamp, said lace having said lengths extending past the bight portion and over an edge thereof in such parallel relation, a lever journalled for rotation between the legs of said U-shaped section and having an arm extending past the bight portion in the general direction of the wing, said arm and wing cooperating to serve as finger grips, said lever having a camming portion adjacent its inner end to cam simultaneously against each of the non-contacting lengths of the lace extending past said bight portion upon pivoting of the lever to lock said lengths relatively to each other and in such spaced apart position.

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3. In combination, a shoe lace, a clamp adapted effectively to fasten the lace with respect to a shoe in which the lace is threaded, said clamp comprising a U-shaped section having an outwardly turned wing from the bight portion thereof, guide means separate from said wing extending inwardly of the legs of the U-shaped section and toward one another to receive lengths of said lace and space said lengths overlying the bight portion of the U-shaped section in spaced apart substantially parallel relation and extending over an edge of said bight portion, a lever journalled for rotation between the legs of said U-shaped section and having an arm extending past the bight portion in the general direction of said wing, said arm and wing cooperating to serve as finger grips, said lever having a camming portion adjacent its inner end to cam simultaneously against each of the spaced apart lengths of the lace which overlie said bight portion upon pivoting of the lever to fix said lengths of the lace relatively to each other.

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