Sept. 17, 1963 E. J. ROBB ET AL 3,103,725

SHOE LACE FASTENER

Filed Aug. 3, 1961

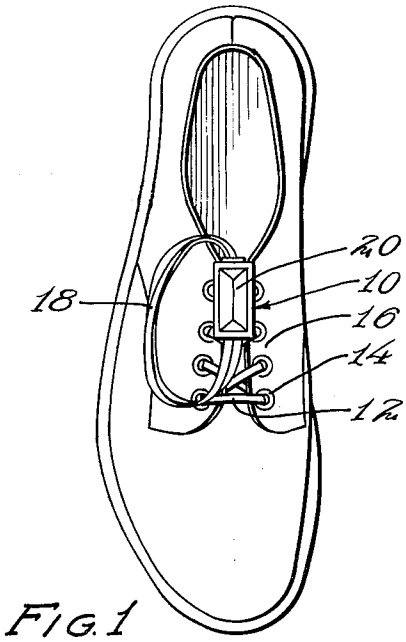


FIG. 1

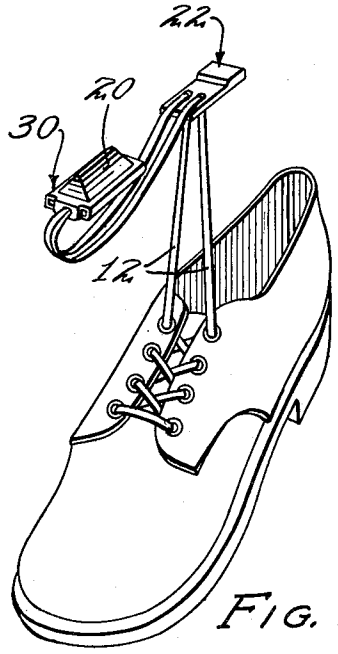


FIG. 2

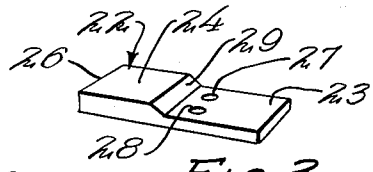


FIG. 3

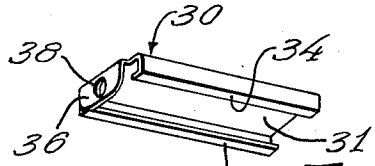


FIG. 4

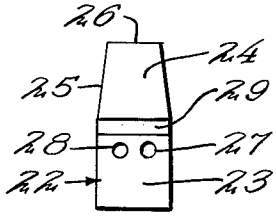


FIG. 7

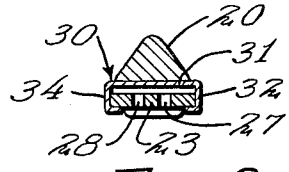


FIG. 6

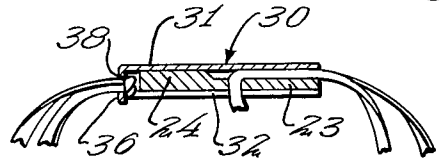


FIG. 5

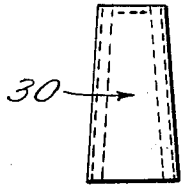


FIG. 8

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SHOE LACE FASTENER

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This invention relates to an improvement in shoe lace fastener and is particularly concerned with a device which is simple to operate, ornamental in appearance, and completely effective in its purpose.

At the present time shoes are constructed in which the upper part of the shoes have eyelets or hooks, or combinations of eyelets and hooks with laces engaged through said eyelets and hooks to hold the shoe on the foot. Because of the tendency of laces to bcome untied and the knots to loosen, various devices have been manufactured to overcome this difficulty, such as zipper fasteners, and various forms of buckles. Laces tend to become less attractive with repeated tyings, and often the laces lose their tips from the ends of the lace making it difficult to thread the laces through the eyelets of a garment or shoe. It is a purpose of the present invention to provide a means whereby laces can be fastened without involuntary loosening of the fastening. It is a further purpose of the present invention to provide a means whereby laces may be prevented from being pulled out of the shoe eyelets accidentally by adults or purposely by children. A further object of the present invention lies in a fastening device which will not cause undue wear upon the shoe laces.

An annoying problem exists in keeping laces fastened in shoes, jacket hoods, and other garments especially when worn by small children. The problem is further aggravated when the children are in groups such as kindergarten or primary grades and are unable to retie the laces when they have become unfastened. In addition the laces may have lost their tips and have pulled out of the eyelets of the shoe making relacing and fastening more difficult. An object of the present invention lies in a means of fastening laces which is simple enough for a small child to operate and which is effective as a fastening device whether used by a child or an adult. A further object lies in a device which may be easily operated by a child or adult having little manual dexterity and which when so operated will effectively fasten the laces.

In order to be in style with the various kinds of shoes which are being manufactured, laces of various shapes, materials, and thicknesses have been manufactured. An object of the present invention lies in a device which may be used with laces of different materials, thicknesses, and shapes with uniform success.

In some instances shoes are designed for the use of various club and youth groups. Often in order to identify a particular group, shoes are purposely colored or carry a distinctive design. In many cases it has been difficult to obtain laces which would complement the design of the shoe. An object of the present device lies in a fastening means which is effective as a fastening means and further is susceptible to changes in exterior design and ornamentation so as to provide a desirable accent to the shoe. The ornamental exterior of the fastening device further serves as an increased bearing surface making the device easier to hold and operate.

It is a further object of the present invention to provide a fastening device for laces which may be left on the laces without interfering with the removal of the shoes or other garments on which the device might be used. Since young children in particular have a tendency to remove the laces from their garments and shoes, the laces are often removed and sometimes lost. It is a purpose of the

present invention to provide a fastening device for laces in such a way as to make it very difficult for a small child to remove the device, and consequently unable to remove the laces.

It is a further object of the present invention to provide a device which will be simple to use, effective in operation, and readily manufacturable at low cost.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specifications and claims:

In the drawings forming a part of the specification:

FIGURE 1 is a top plan view of the device attached to a shoe lace.

FIGURE 2 is a perspective view of the disengaged components of the device.

FIGURE 3 is a perspective view of one component part.

FIGURE 4 is a perspective view of the engaging channel into which the part of FIGURE 3 is inserted.

FIGURE 5 is a longitudinal sectional view of the device attached to laces.

FIGURE 6 is a cross section of the assembled device illustrating the ornamental bearing surface.

FIGURE 7 is a top plan view of the wedge component.

FIGURE 8 is a top plan view of the channel-shaped component.

In the drawings forming a part of the specifications, the drawings illustrate a fastening device for laces generally indicated by the number **10**. FIGURE 1 particularly illustrates the compact structure of the device **10**. The device **10** is attached to a lace **12** which is laced through eyelets **14** in the upper of a shoe **16**. As will be understood, a single lace is used in a shoe and laced through the eyelets so that when the shoe is completely laced the lace ends project through the eyelets at the top of the shoe. The ends of the laces may be either long or short as desired by the wearer without affecting the functioning of the fastening device **10**. When connected to the fastening device **10**, the excess of lace **12** not engaged within the laced eyelet portion or by the fastening device **10** is draped to form an attractive loop **18** if desired which tends to lie along the upper portion of the shoe **16**.

The device **10** may be used to hold a lace tightly at any desired attachment point. In the illustration of FIGURE 1, the device **10** is holding a lace tightly against the upper eyelets of a shoe **16**, the ornamental bearing portion **20** of the device **10** being uppermost. It will be understood that the device may be fastened engageably on the lace at any desired place and that the illustration merely indicates one possible position of attachment of the device **10** to a lace **12** of a shoe **16**.

As can be clearly seen in FIGURE 2 and in more detail in later figures, the lace fastener device **10** in its preferred form of construction consists of generally flat bar **22** in the form of a wedge designed to be inserted at least partly into a fastening means and engaged therein. The fastening means **30** is structurally a plate portion having opposed inwardly faced channels along the side edges thereof into which the bar wedge **22** is inserted. An ornament or an upwardly projecting ornamental bearing portion **20** which serves as a handle means in the sense that it provides a surface more easily grasped by the user, and against which pressure may be exerted in joining the two components **22** and **30**, is fastened to the opposite surface of the plate portion of the fastening means **30** from the opposed inwardly faced channels.

In the preferred form of construction, the wedge insert **22** has a generally rectangular shape when viewed in plan and as illustrated in FIGURE 7 of the drawings. This insert **22** includes a flat relatively thicker end **24**. The

end 24 comprises what may be termed the front end which is to be first inserted into the cooperable channel section 30. The sides 25 of the end 24 converge toward the forward extremity 26, and the side edges of the thinner rear end 23 may be parallel, or may continue on the planes of the sides 25. The thicker end 24 serves as a bearing surface and provides clearance for the connected laces when the wedge insert 22 is inserted into the channel fastening means 30. Laterally spaced apertures 27 and 28 are provided through the end 23 intermediately of the sides and ends and adjacent to the shoulder 29 at the rear of the raised bearing portion. The ends of a lace 12 are passed upwardly through the apertures 27 and 28, the laces being conected at their ends to the channel fastening means 30 in a manner later described. The wedge insert 22 may be slid back and forth on the laces which extend through the apertures 27 and 28 to the position desired, and there inserted into the channel fastening means 30.

The channeled fastening means 30 has a plate 31 portion of a generally similar shape to the wedge insert 22. Along the side marginal edges of the plate portion 31 channel portions 32 and 34 are fastened. The channel portions 32 and 34 are inwardly faced and are in opposed relation. The channel portions 32 and 34 diverge outwardly from a closed end portion 36. The closed end portion 36 is closed by an angular projection of the plate 31 in the form of a flange between the channel portions 32 and 34 and has an aperture 38 transversely therethrough intermediately spaced from the sides of the flange 36 in the preferred form of construction. The flange 36 is a projection of the upper plate portion which is bent angularly at substantially right angles to the plate 31 to provide an end piece which serves as a closure for the channels 32 and 34, the aperture 38 in the said flange forming an opening through which the ends of the lace 12 may be inserted and fastened together or knotted separately. The ends of the lace 12 are passed inwardly through the aperture and tied or fastened by sewing, knotting, braiding and the like so that the lace ends will not pull back through the aperture.

In attaching laces to the fastening means 10, the lace ends are passed through the apertures 27 and 28 of the wedge insert 22 and inwardly through the aperture 38 of the channeled fastening means 30 where the ends of the lace 12 are fastened together. The wedge insert 22 may be then slid along the lace 12 to a desired point where the laces are to be fastened, and the channel means 30 is then slid over the raised bearing surface 24 of the wedge insert 22, the side edges of the insert 22 sliding in the channel portions of the fastener 30. The wedge insert 22 frictionally wedges within the channeled fastening means 30, the ends of the lace 12 projecting outwardly from the aperture 38 of the channeled fastening means 30 and over the rear end 23 of the insert 22 being frictionally engaged to some extent between the lower clamping surface of the plate portion of the channeled fastening means 30 and the upper clamping surface of the end 23. This combination of frictional engagement of the lace 12 and insert 22 by the channel fastening means 30 prevents movement of the fastening device 10 and holds the laces securely. To separate the telescoped components 22 and 30 of the fastening device 10, the lace 12 projecting from the aperture 38 of the channeled fastening means 30 is grasped in one hand, and the lace extending outwardly between the insert 22 and the lower side of the plate portion of the channeled fastening means 30 is grasped in the other hand. A slight tug then causes the components 22 and 30 of the fastening device 10 to separate.

An ornamental bearing portion 20 is attached to the plate portion 31 of the channel means 30 on the opposite surface of the plate from the opposed channels 32 and 34. The ornamental portion 20 may be fastened to the channel means 30 in various ways depending upon the

type of ornamental structure desired, and may be an integral portion of the channel means 30. The ornamental bearing portion 20 serves as an ornament to make the lace 12 and fastener 10 more attractive in appearance, and in addition serves as a bearing surface against which pressure may be exerted when sliding the channel means 30 into engagement with the insert 22.

Thus the device is readily secured to laces and other similar means for lacing objects together, the fastener 10 being manufacturable in a variety of sizes having similar basic structure and performing the same utilitarian and artistic purpose.

In accordance with the patent statutes, we have described the principles of construction and operation of our shoe lace fastener and while we have endeavored to set forth the best embodiment thereof, we desire to have it understood that changes may be made within the scope of the following claims without departing from the spirit of our invention.

We claim:

1. A shoe lace fastener for use in conjunction with laces attached to a shoe including an engaging means having means for the attachment of laces, said engaging means including a plate portion having inwardly opposed channel-shaped side members attached to the marginal edges of said plate portion, a flange projecting downwardly from one end of said plate portion, said flange extending transversely between said channel-shaped side members, a wedge shaped member insertably connectable in said engaging means, said wedge-shaped member having apertures extending transversely through said wedge-shaped member adjacent to said rear end through which laces are designed to pass, laces extending through said apertures adjacent to said rear end and attached to said engaging means, the said wedge member insertably engaged in said engaging means, said laces being frictionally engaged between said wedge portion and said engaging means.

2. The structure of claim 1 and in which said channel shaped side members are in diverging relation to each other from the end of said plate supporting said flange.

3. The structure of claim 1 and in which said flange has an aperture therethrough intermediate the ends of said flange through which the ends of said lace may be passed and fastened.

4. A lace fastener for use in conjunction with laces including a first member designed to engage a telescoping second member, said first member having a bearing plate means, opposed inwardly faced channels attached to said bearing plate means, a flange projecting from said plate between said channels at one end of said bearing plate, said flange having an aperture extending transversely therethrough intermediate the ends of said flange, a telescoping second member designed to be telescoped into said first member, said second member having a forward end and a rear end of lesser thickness than said forward end, said second member having apertures extending transversely therethrough adjacent to said rear end, laces extending through said apertures in said telescoping member, ends of said laces extending through the aperture in said flange and engaged together, the said telescoping second member insertably engaged in said first member, said plate portion frictionally engaging the said laces extending through the said apertures in said telescoping second member between said plate and said rear portion of said telescoping member.

5. The structure of claim 4 and in which the sides of said telescoping member are frictionally engaged in said channels of said first member.

6. The structure of claim 4 and in which said bearing plate means has an ornamental handle attached to the said plate on the opposite surface of said plate from said opposed channels, and means for holding said bearing plate and ornamental handle in engagement.

7. A shoe lace fastener for use in conjunction with a shoe lace attached to a shoe including,

(*a*) an engaging means including a wedge receiving member having a lace clamping surface and means for the attachment of the end extremities of the ends of a shoe lace,

(*b*) a wedge-shaped member having a forward end and a rear end and having side edges converging toward said forward end,

(*c*) said forward end being of greater thickness than said rear end,

(*d*) said rear end including a lace clamping surface,

(*e*) said wedge shaped member telescopically connected in said engaging means, at least said forward end being in closely spaced relation in said engaging means,

(*f*) said wedge-shaped member rear end having apertures extending transversely through said rear end intermediate said side edges,

(*g*) the ends of said lace extending through said apertures in said rear end and adapted to overlie said rear end clamping surface,

(*h*) the end extremities of said lace attached to said engaging means,

(*i*) said wedge member being slidable on said lace ends toward and away from the shoe from which said lace ends extend,

(*j*) whereby when said wedge member is inserted in said engaging means, said forward end provides clearance for said lace ends, said rear end of said wedge member is frictionally engaged between the lace clamping surfaces of said rear end and said engaging means.

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