

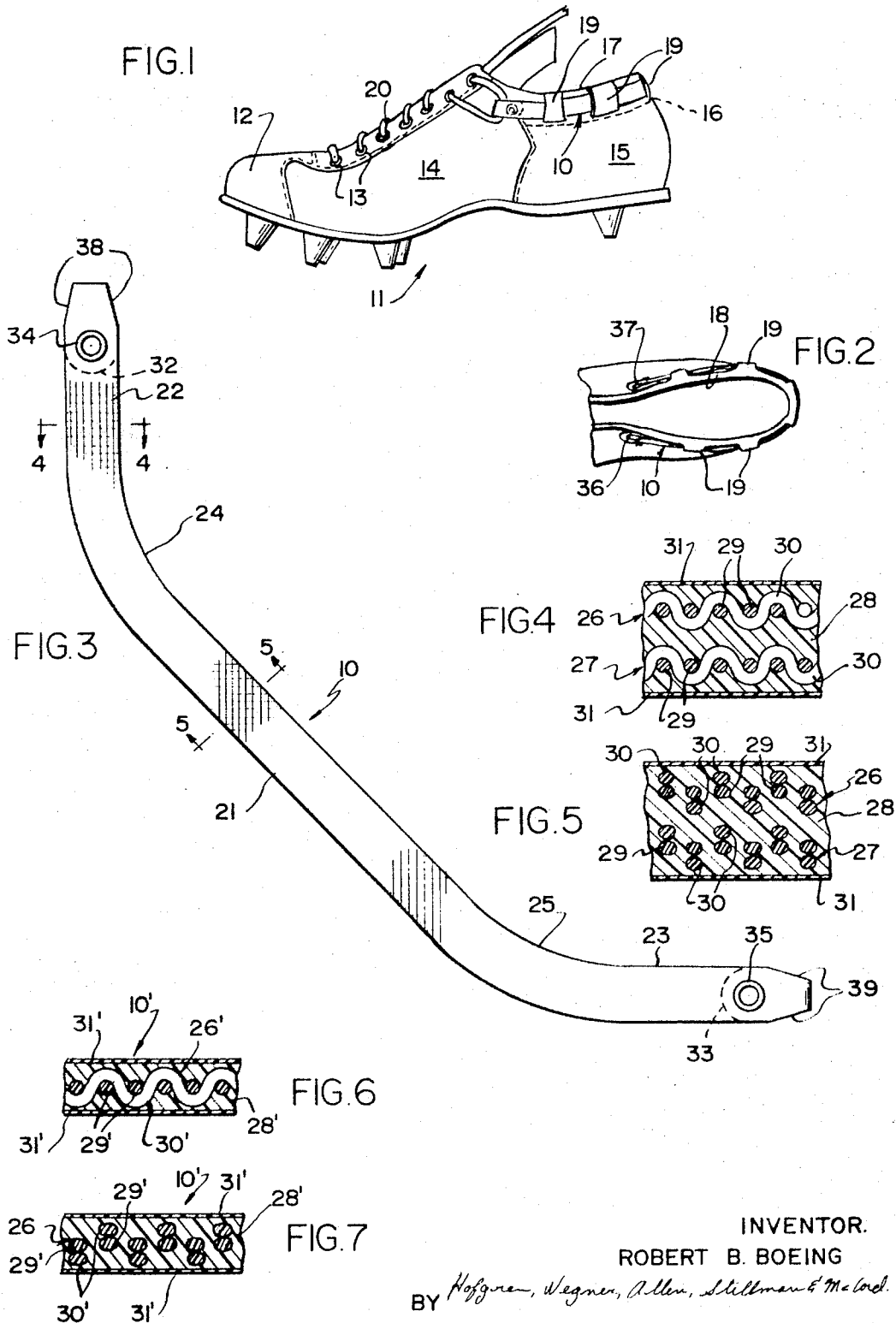
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3,456,366

ANKLE TIE

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3,456,366

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10 Claims

ABSTRACT OF THE DISCLOSURE

An ankle tie for an athletic shoe defined by a strap including an elastic central portion adapted to be fitted over the heel of a user where it will elongate and recover as the heel of the user is moved during normal foot movement, and further including generally inelastic leg portions extending outwardly from opposite ends of the central portion at an angle with respect thereto, said leg portions being adapted to be positioned on opposite sides of the user's ankle and follow the contour of the top of the shoe to provide tension to the top of the shoe to positively retain the same on the user's foot. The strip is formed from a coated fabric consisting of square weave material with the leg portions cut parallel to the warp or woof of the fabric, and the central portion being cut on the bias. Alternatively selective securing means are provided at the outer end of each leg portion for securing the strap to the laces of the shoe.

BACKGROUND OF THE INVENTION

At one time, athletic shoes were all cut high such that the ankle joint was encased and the top of the shoe tied tightly above the ankle joint. Such shoes were almost impossible to remove, even in rough use, such as football scrimmage, unless the lace was untied or severed. However, over the years, athletic shoes have evolved to provide the wearer with more comfort and lighter weight, and one of the first steps in this evolution was to use the oxford or low cut style. The low cut athletic shoe is lighter in weight, cooler and to some extent more comfortable than the high cut shoe. However, the low cut shoe is more susceptible to being pulled off during rough use, since the normal top opening is larger, when laced on the foot, than is the top opening of a high cut shoe.

Many devices have been proposed in an attempt to overcome the tendency for a low cut athletic shoe to come off, and one such arrangement has been disclosed in Morgan et al. Patent No. 2,806,300. The device disclosed in the Morgan et al. patent is a flat, flexible, inelastic strap extending around the upper rear portion of an athletic shoe, and secured at its forward ends to the shoe laces. When placed on a shoe, the strap disclosed in the Morgan et al. patent is disposed in a single horizontal plane, and while the tension at the top line of the shoe has tended to prevent removal of the shoe, the inelastic nature of the strap and its straight contour could cause irritation by the resulting pressure of the unyielding strap over the wearer's heel portion. To obviate the problems encountered in the use of straps, such as those disclosed in the Morgan et al. patent, it has been proposed to make such straps of elastic material, and while elastic straps have failed to create pressure points which cause blisters and the like, the elastic straps have not been effective in preventing athletic shoes from coming off during rough use.

SUMMARY OF THE INVENTION

The ankle strap of the present invention combines the advantageous features of previously known straps in a unique manner, while at the same time eliminating less advantageous features, to provide a tie that will not only

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positively retain an athletic shoe on the user's foot even during rough use, but which will also flex freely as the foot is moved so as to minimize the amount of rubbing on the foot. In an exemplary embodiment of the invention, the ankle tie is formed of a flat strap including inelastic leg portions of substantial width that extend along opposite sides of an athletic shoe at the upper end thereof, and which snugly embrace the user's ankle so as to positively retain the shoe on the foot. The leg portions of the strap are connected by a central elastic portion that is received over the user's heel, and the elastic portion provides sufficient give as the user's ankle joint is flexed to minimize the amount of rubbing of the heel portion of the shoe on the user's ankle. Alternatively selective means are provided at the outer ends of each strap leg portion, with each such means being connectable to the shoe lace, so that if one of the securing means becomes damaged during rough use, the other securing means can be quickly connected to the shoe lace.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view of a low cut football shoe incorporating the ankle tie of the present invention;

FIG. 2 is a fragmentary top elevational view of the rear portion of the shoe illustrated in FIG. 1;

FIG. 3 is an enlarged plan view of the ankle tie strap of the present invention;

FIG. 4 is an enlarged cross sectional view taken generally along line 4—4 of FIG. 3;

FIG. 5 is an enlarged cross sectional view, taken generally along line 5—5 of FIG. 3;

FIG. 6 is an enlarged cross sectional view similar to FIG. 4 only showing a modified form of the invention; and

FIG. 7 is an enlarged cross-sectional view similar to FIG. 5 only showing the modified form of the invention of FIG. 6.

DESCRIPTION OF THE PREFERRED EMBODIMENT

While this invention is susceptible of embodiment in many different forms, there is shown in the drawing and will herein be described in detail one specific embodiment with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The scope of the invention will be pointed out in the appended claims.

Referring now to the drawing, the ankle tie 10 of the present invention is illustrated in connection with a low cut football shoe 11, but it should be understood that the ankle tie has general application to shoes that receive rough use, and is particularly adapted for other types of athletic shoes, such as baseball shoes and track shoes. The football shoe 11 includes a toe panel 12 having a plurality of spaced eyelets 13 extending along spaced, rearwardly extending and upwardly inclined portions thereof; and intermediate or side panels 14 are connected to toe panel 12 at opposite sides thereof, while a heel panel 15 is connected to the rear portion of side panels 14. A stiff counter piece 16 is conventionally provided within heel panel 15, and heel panel 15 includes a flexible portion 17 at the upper end thereof above counter piece 16, with padding 18 (FIG. 2) conventionally being provided on the inner portion of the shoe. A plurality of spaced loops 19 are provided around the upper shoe portion 17, for reception of tie 10 therethrough, with the forwardmost loops 19 being positioned substantially in the plane of the upper two eyelets 13 to facilitate connection of the strap 10 to a shoe lace 20.

As can be best seen in FIG. 3, strap 10 includes a generally rectilinear central portion 21 and generally rectilinear leg portions 22 and 23 that are disposed at an angle

of approximately 45° with respect to central portion 21. Leg portions 22 and 23 extend outwardly from the same side of central portion 21, and are disposed generally perpendicularly with respect to one another. Arcuate connecting portions 24 and 25 connect central portion 21 and leg portion 22, and central portion 21 and leg portion 23, respectively.

Strap 10 is preferably die cut from a single piece of composite material including fabric layers 26 and 27 that are bonded together and faced with a suitable material, such as vulcanized chloroprene rubber 28. Layers 26 and 27 are preferably a square weave fabric of suitable material, such as nylon, with the leg portions 22 and 23 being cut parallel to either the warp 29 or woof 30 of the fabric, and the central portion 21 having the warp and woof threads positioned at an angle of approximately 45° with respect to the width thereof. In this manner, the leg portions 22 and 23 of the strap are substantially inelastic, in that tension forces applied to the strap are applied longitudinally to the substantially non-extendable warp or woof threads, while the central portion 21 is somewhat elastic because tension forces applied to the strap are applied at an angle to the warp and woof threads. In order to improve the abrasion resistance of the strap 10, the outer surfaces thereof are preferably provided with a suitable coating 31, which may take the form of a chlorosulfonated polyethylene rubber, such as that available from E. I. du Pont de Nemours and Co. under the trademark Hypalon.

As is evident from FIG. 3, the outer ends 32 and 33 of leg portions 22 and 23 respectively, are rounded and bent over upon the leg portions and secured thereto by respective eyelets 34 and 35. Loops 36 and 37 are provided within the folded over ends of the leg portions, and cooperate with the eyelets to provide alternatively selective means at each end of the strap for securing the same to the shoe lace 20. The end portions 38 and 39 of the strap legs are preferably tapered so as to facilitate threading of the strap through the loops 19 on the shoe.

In use, the strap 10 is threaded through the loops 19 at the upper flexible portion 17 at the upper rear of the shoe, and the ends of the shoe laces are threaded through the loops 36 and 37 and tied together to apply a force extending substantially longitudinally along the strap 10. The rectilinear strap central portion 21 is disposed across the rear of the shoe, while arcuate portions 24 and 25 extend generally parallel to the curved upper portions 17 of the shoe immediately forward of the shoe rear portion. Inelastic leg portions 22 and 23 snugly embrace the forward portion of the ankle receiving opening in the shoe, and cooperate to positively retain the shoe on the user's foot while at the same time, the generally elastic strap portion 21 allows the user's foot to extend the strap somewhat during foot movement. Rubber-like material 28 provides a substantial amount of cushioning for the strap, and the coating 31 allows the strap 10 to move a certain extent with respect to its adjacent shoe surfaces. It will be appreciated that if loops 36 and 37 become damaged during use, the shoe lace can be quickly untied and threaded through eyelets 34 and 35.

FIGURES 6 and 7 show one modified form of the invention wherein the strap 10' is die cut from a single piece of material made of a single layer of fabric 26' bonded and impregnated with a suitable material, such as vulcanized chloroprene rubber 28'. The layer 26' of fabric has a square weave of a material such as nylon, with the leg portions being cut parallel to either the warp or woof of the fabric and the central portion having the warp and woof threads positioned at an angle of approximately 45° with respect to the width thereof. In all other aspects the strap 10' of FIGURES 6 and 7 is the same as the strap 10 of FIGURES 1 to 5 except that it is

made of a single layer of material instead of the composite double layers 26 and 27. It is to be understood that the invention is not limited to the number of layers of material in the strap whether it be single, double, triple or any other number.

The foregoing detailed description is given for clearness of understanding only and no unnecessary limitations are to be understood therefrom, as some modifications will be obvious to those skilled in the art.

I claim:

1. A device for pulling the top of a shoe tightly against the ankle of a user comprising: a flat one-piece woven strand strap having a central portion and at least one leg portion on one end thereof, said central portion being adapted to be fitted over the heel of a user's foot and said leg portion being adapted to extend along one side of the user's ankle, said leg portion having some of the woven strands parallel to the direction of pull on the strap thereby making said leg portion relatively inelastic and said central portion having the woven strands on a bias with respect to the direction of pull on the strap thereby making said central portion relatively elastic; and securing means adjacent the end of said leg portion remote from said central portion.

2. A device as set forth in claim 1 wherein there are two leg portions which are disposed generally at an angle with respect to said central portion.

3. A device as set forth in claim 2 wherein said central portion and said leg portions are generally rectilinear and the junctions between said central portion and said leg portions are rounded.

4. A device as set forth in claim 2 wherein said angle is approximately 45°.

5. A device for pulling the top of a shoe tightly against the ankle of a user comprising: a flat strap formed from a woven fabric having a central portion and leg portions at opposite ends thereof disposed generally at an angle with respect to said central portion, said central portion being adapted to be fitted over the heel of a user's foot and said leg portions being adapted to extend along opposite sides of the user's ankle, said leg portions being relatively inelastic and said central portion being relatively elastic; securing means adjacent the end of each leg portion remote from said central portion, with the warp or woof of the fabric leg portions being parallel to the length of the leg portions, and the warp and woof of the fabric central portion being disposed at an angle of approximately 45° with respect to the length of the central portion.

6. A device as set forth in claim 5 wherein said fabric is disposed within a rubber-like material.

7. A device as set forth in claim 6 wherein said strap is defined by at least two layers of fabric as defined in claim 5, with said layers being bonded together and faced with said rubber-like material.

8. A device as set forth in claim 6 wherein an abrasion resistant coating is provided on each side of said strap.

9. A device as set forth in claim 5 wherein said securing means includes at least two alternatively selectable devices.

10. A device for pulling the top of a shoe tightly against the ankle of a user comprising: a flat strap having a central portion and leg portions at opposite ends thereof, said central portion being adapted to be fitted over the heel of a user's foot and said leg portions being adapted to extend along opposite sides of the user's ankle, said leg portions being relatively inelastic and said central portion being relatively elastic; securing means adjacent the end of each leg portion remote from said central portion, a first of said securing devices is a loop at the end of each leg portion, and a second of said securing devices is an eyelet adjacent each of said loops.

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