

March 17, 1970

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3,500,508

SHOE TIE

Filed May 13, 1968

2 Sheets-Sheet 1

FIG. 1

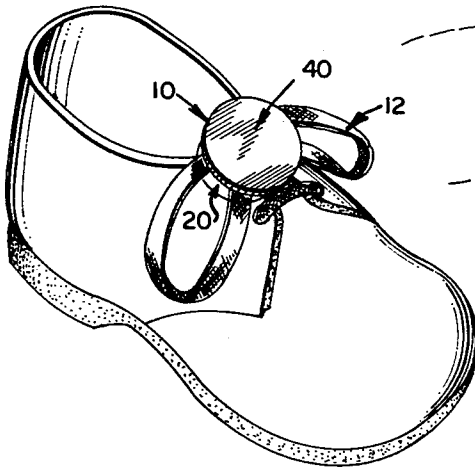


FIG. 2

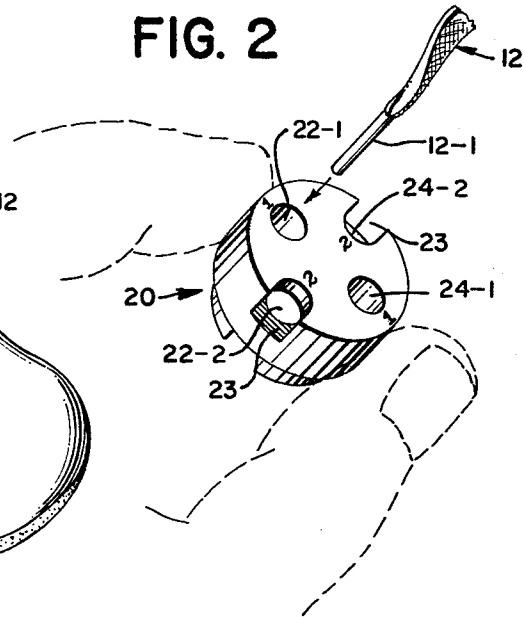


FIG. 3

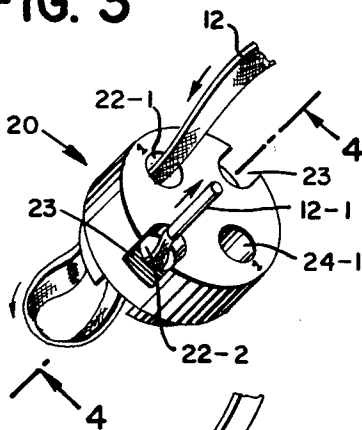


FIG. 4

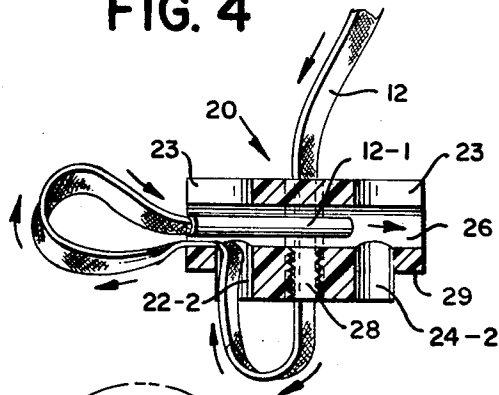


FIG. 5

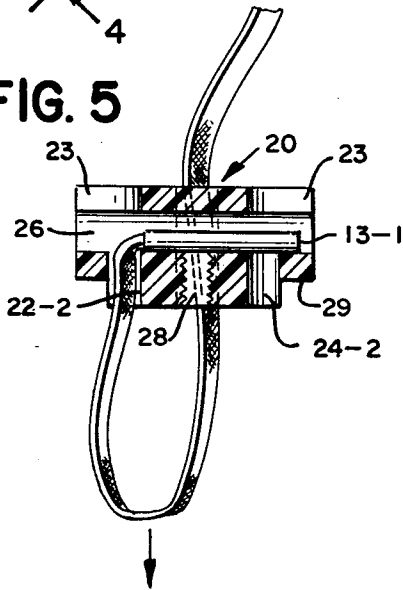
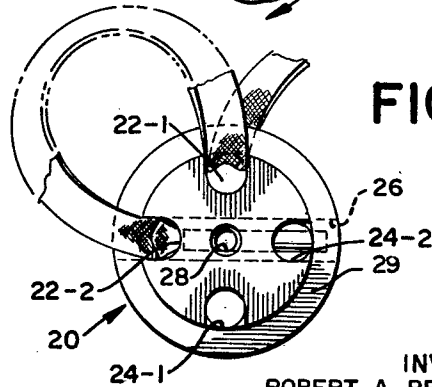


FIG. 6



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2 Sheets-Sheet 2

FIG. 7

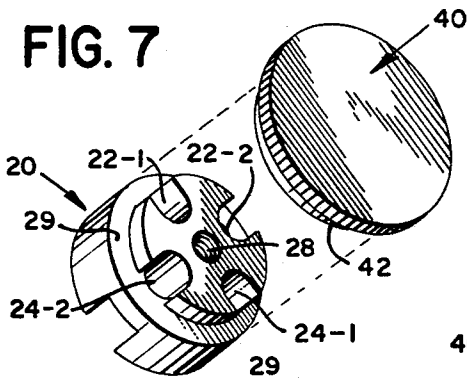


FIG. 8

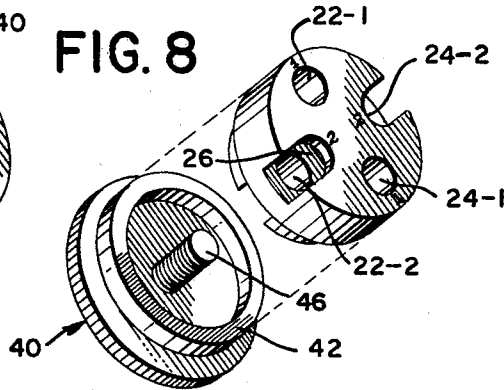


FIG. 9

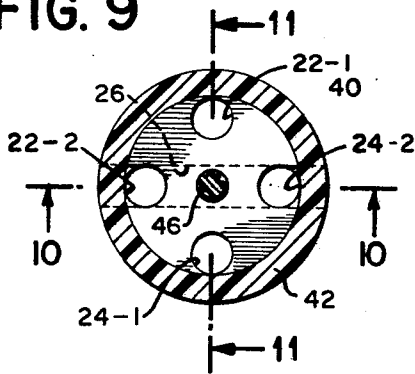


FIG. 10

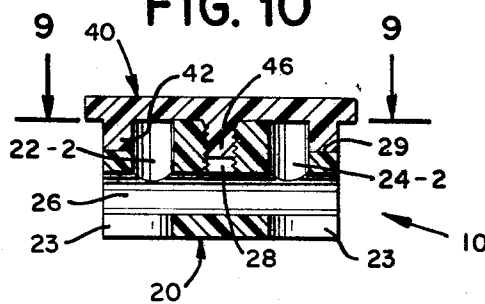


FIG. 11

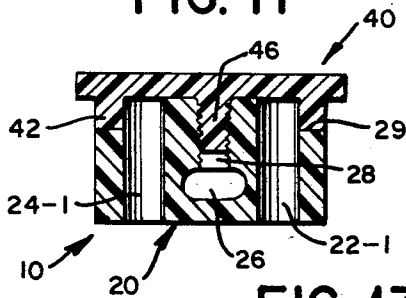


FIG. 12

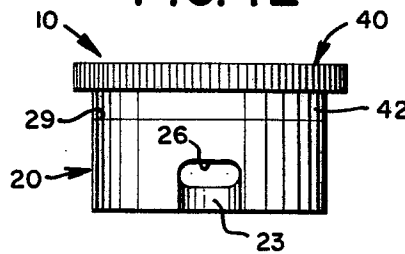
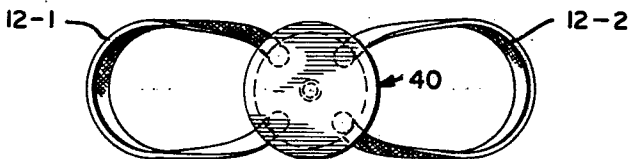


FIG. 13



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3,500,508  
SHOE TIE

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9 Claims

## ABSTRACT OF THE DISCLOSURE

A tie for holding a shoe lace including a body member with two pairs of holes and a cross-channel. Each end of the lace passes through one hole of a pair in a first direction and through the second hole of the pair in a second direction forming a loop, the head of the end of the lace being inserted and locked in the channel. After the loops are pulled to make the lace tight, a cover member is secured to the body engaging portions of each lace end forming a respective loop.

As is known, shoe ties are often used on the shoes of babies and juveniles to prevent the laces from becoming untied. Such ties are preferably made simple to operate, so that the lace can be adjusted to a desired degree of tightness without too much trouble. Also, it is desired that the tie be made economically.

The present invention relates to a novel shoe tie which is both economical to produce and simple to operate. In accordance with the invention a tie is provided which has a body and a cover. The body is formed with two pairs of holes, one pair being used for each end of a lace. A channel is also provided in the body to hold and lock the head of each end of the lace. The channel is formed generally transverse of the holes.

In operation of the tie of the present invention, each end of a lace is threaded through a pair of holes to form a respective loop and the head of each end is locked in the channel. The tie is slidable over a portion of the end of lace forming each loop so that the tightness of the lace can be adjusted merely by holding the two loops and moving the tie. Since the head of each end of the lace is locked in the channel, the lace does not separate from the tie. After the tie has been adjusted to a desired location, a cover member is fastened to the body which engages and holds the two portions of each loop formed by a respective end of the lace.

It is therefore an object of the present invention to provide a tie for a shoe lace which securely holds the ends of a lace.

Another object is to provide a tie for a shoe lace in which the tightness of the lace is easily adjustable by sliding the tie.

An additional object is to provide a shoe lace tie in which each end of a lace is passed through a pair of holes to form a loop and the head of each end of the lace is locked in a channel.

A further object is to provide a shoe lace tie which is prevented from becoming disengaged from the lace by locking of the heads of the ends of the lace to the body.

Other objects and advantages of the present invention will become more apparent upon reference to the following specification and annexed drawings, in which:

FIG. 1 is a perspective view of a shoe with the tie of the present invention shown thereon;

FIG. 2 is a perspective view of the tie shown from the bottom with the cover removed;

FIG. 3 is a perspective view of the tie in the position shown in FIG. 2, showing the threading of one end of a shoelace;

2

FIG. 4 is an elevational view in cross-section of the holder taken along the lines 4—4 of FIG. 3;

FIG. 5 is a cross-sectional view of the tie as shown in FIG. 4 with one end of a lace fully threaded;

5 FIG. 6 is a top view of the tie with one end of a lace threaded;

FIGS. 7 and 8 are exploded perspective views of the tie and cover from the top and bottom thereof, respectively;

10 FIG. 9 is a top view of an assembled tie taken in cross-section along lines 9—9 of FIG. 10;

FIGS. 10 and 11 are elevational views of an assembled tie taken in section along lines 10—10 and 11—11 of FIG. 9, respectively, which are located 90° from each other;

15 FIG. 12 is an elevational view of an assembled tie; and FIG. 13 is a top view of a tie with both ends of a lace threaded.

Referring to the various figures of the drawing, the shoe tie of the present invention is a two-piece device formed by a base 20 and a cover 40. Both pieces are made of any suitable material, for example, a plastic which can be made in a conventional manner such as by injection molding. Therefore, the shoe tie of the present invention is very inexpensive to produce.

In the illustrated embodiment, the base is shown as generally circular in shape with the cover also being of a conforming circular shape. Other suitable shapes can be used, as desired, since the exact shape of the base and the cover are not critical to the operation of the invention.

As seen, the base 20 has four through holes of approximately the same size therein with their centers spaced 90° apart on radii from the center of the base. A pair of holes spaced 90° apart is used for each end of a shoe lace. For convenience, one pair of holes is designated 22-1 and 22-2 and the other pair 24-1 and 24-2. The holes 22-1, 24-1 and 22-2, 24-2 are respectively diametrically opposite each other. Of course, the 90° spacing from center-to-center for the holes is not critical.

20 A screw threaded opening 28 is formed in the center of the base and extends only partially therethrough. The upper portion of the base 20 is cut away around its periphery to form a shoulder 29. As should be apparent, the raised portion of the base above the shoulder forms a modified form of a maltese cross around the four openings 22 and 24.

The cover 40 is of the same general shape as the base and has a flat top. A collar 42 is formed on the underside of the cover 40 (see FIG. 8) which fits in the shoulder 29 of the base. A screw 46 which mates with the screw threaded opening 26 of the base member also extends downwardly from the underside of the cover so that the cover 40 can be tightened down and held on the base.

30 A channel 26 is formed diametrically through the lower portion of the base. Channel 26 communicates with the diametrically opposing holes 22-2 and 24-2 but does not communicate with either of the holes 22-1 or 24-1. The channel 26 is large enough to accommodate the two reinforced heads of the ends of a single lace. As shown in FIG. 3, the walls of the bottom of the body adjacent the holes 22-2 and 24-2 are cut away at 23 to expose the channel 26 inwardly of these two holes. The purpose of the channel is described below.

Indicia numbers 1 and 2 are preferably printed on the bottom of the base to aid in the use of the tie. The indicia 1 and 2 are printed adjacent the holes with the corresponding suffix numbers -1 and -2.

The operation of the shoe tie of the present invention is explained by referring to FIGS. 2-6. One end 12-1 of a lace 12 is inserted into the bottom of hole 22-1 (FIG. 2) and pulled through this hole. Then, as shown in FIG.

3, the lace end 12-1 inserted into the other hole 22-2 of the pair and pulled all the way through to form a loop at the top of the body. In the next step, as shown in FIG. 4, end 12-1 of the lace is pulled outwardly through the cutout portion 23 of the base and then inserted into the channel 26. A pull is then given the left portion (FIG. 4) of the loop of the lace extending out of the top of the base to pull the excess portion of the lace back through the hole 22-2 so that the lace will assume the shape as shown in FIG. 5. As can be seen, the hardened, or reinforced end 13-1 of the lace is locked within the channel 26 and cannot be easily removed. For example, any pull downward on the loop, in the direction of the arrow shown in FIG. 5 will cause the head to cock and engage the wall of the body surrounding the channel. The only way to get the head 13-1 of the lace out is to push out by inserting a member through the end of channel 26 adjacent hole 22-2. Thus, the one end of the lace is locked to the tie.

As should be apparent, the portion of the lace extending through hole 22-1 can be moved relative to the body 20 or the body moved relative to the lace. Thus, the body can be slid up and down on the portion of the lace extending through the hole 22-1.

The other end 12-2 of the lace (not shown in FIGS. 2-6) is inserted into the tie in the same manner using the hole pair 24-1 and 24-2. In this case, the head of lace end 12-2 is inserted down through hole 24-1 (where the indicia 1 is shown) and pulled out. It is then pushed through the hole 24-2 from the top of the body. The head end of this end of the lace is then inserted into the end of channel 26 adjacent the opening of hole 24-2.

After both ends of the lace are inserted in the tie, the head ends are locked in the channel 26 in the manner previously described. Therefore, the tie will not fall off the lace under normal usage conditions.

To adjust the tightness of a lace on a shoe using the tie 10, it is only necessary to hold the two loops which extend from the tie, and move the tie up or down. The tie slides over the two portions of the lace extending through holes 22-1 and 24-1. The tie is usually pushed down until the bottom of the base (with the indicia thereon) is against the top of the shoe and the desired degree of tightness is obtained. The cover 40 is then screwed onto the base and the portions of the loops formed by the lace ends 12-1 and 12-2 are held against the body 20 by raised ridge 42 on the cover. This holds the lace with the desired amount of tightness. The fully assembled tie is shown in FIG. 13.

To remove the shoe it is only necessary to unscrew the cover 40 and pull up on the tie. The tie slides over the laces to the desired location at which time the laces passing through the eyelets of the shoe can be loosened and the shoe removed in the usual manner.

It should be understood that various modifications of the present invention are possible. For example, rather than using the screw threaded cover 40, a slidable type of cover can be used or one with a snap fit. These changes can be made by one skilled in the art.

What is claimed is:

1. A shoe tie for producing and holding two loops from a lace having two free ends comprising a body having two pairs of holes extending through said body, a

first hole of each pair of holes adapted to accept a respective free end of the shoe lace passing therethrough in a first direction and the second hole of each pair of holes adapted to accept the respective free end of the lace passing therethrough in a second direction thereby forming a respective loop between the exit of said first hole and the entrance of the second hole of each pair of holes, said body also having an enclosed channel extending generally transversely of said holes of both said pairs for accepting and holding the heads of the free ends of the shoe lace, a cover member, and mating means on said body adjacent one of the ends of the holes and on said cover for holding said cover to said body, said cover being adapted to engage the body at said ends of said holes for engaging at least one part of each of the two loops formed by the two portions of the lace extending through both holes of each pair of holes on one side of the body.

2. A shoe tie as in claim 1 wherein there is a single channel which passes through said body to accept and hold the head of each free end of the lace.

3. A shoe tie as set forth in claim 2 wherein the exit ends of the said second holes of each pair are joined in a communicating relationship by said channel which lies generally transverse to said holes.

4. A shoe tie as in claim 2 wherein there is an entrance end of said channel adjacent the exit end of each of said second holes of each pair of holes.

5. A shoe tie as set forth in claim 4 wherein a portion of the body is removed adjacent the exit end of the said second hole of each pair to facilitate entrance into each end of said channel by a respective head of each free end of the shoe lace.

6. A shoe tie as in claim 1 wherein said one end of said body on which the cover is held has a relieved peripheral edge, said cover means having a downwardly extending portion which fits into said relieved portion of the body.

7. A shoe tie as in claim 6 wherein said mating means on the body and the cover comprises threaded means.

8. A shoe tie as in claim 1 wherein said mating means on said cover and said body comprises an extending threaded member on said cover and a threaded hole formed in said body.

9. A shoe tie as in claim 1 wherein said mating means on said cover and said body comprises an extending threaded member on said cover and a threaded hole formed in said body.

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BERNARD A. GELAK, Primary Examiner

U.S. Cl. X.R.

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