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3,106,003

SHOE LACE KNOT PROTECTOR

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FIG. 1.

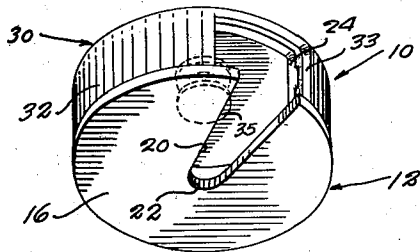


FIG. 2.

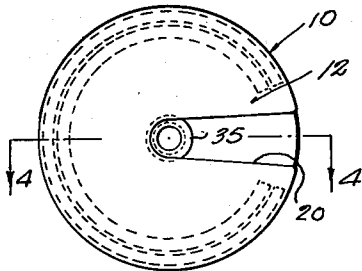


FIG. 4.

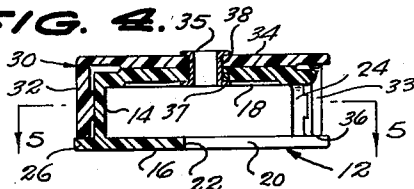


FIG. 5.

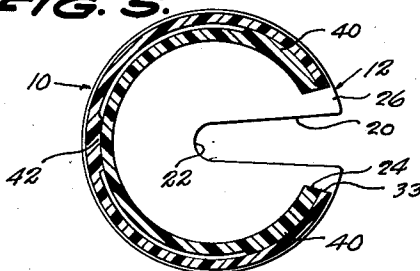


FIG. 6.

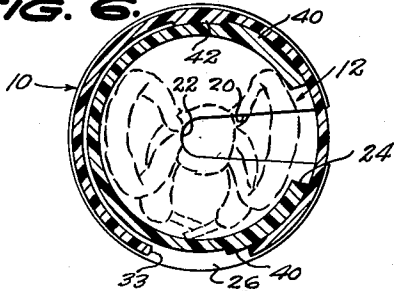


FIG. 3.

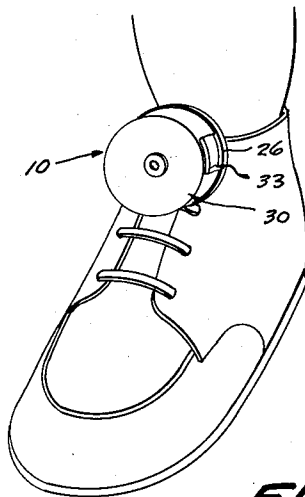


FIG. 7.

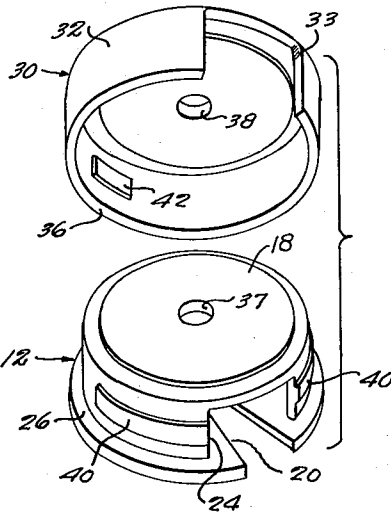
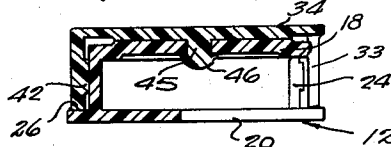


FIG. 8.



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SHOE LACE KNOT PROTECTOR

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3 Claims. (Cl. 24-119)

This invention relates to a shoe lace knot protector.

An object of the present invention is to provide a shoe lace knot protector which is of the type to receive and protect a knot from being accidentally untied or unintentionally untied by a child wearer.

Another object of the present invention is to provide a shoe lace knot protector which is adapted for ready attachment to and detachment from a shoestring knot.

A further object of the present invention is to provide a shoe lace knot protector which is simple in structure, highly efficient in action, and commercially feasible.

Other objects and advantages of the invention will become apparent from the following description taken in conjunction with the accompanying drawing, in which:

FIGURE 1 is a perspective view of the shoe lace knot protector according to the present invention;

FIGURE 2 is a bottom plan view of the protector of FIGURE 1;

FIGURE 3 is a perspective view showing the knot protector in place on the shoestring knot of a shoe worn by a small child;

FIGURE 4 is a cross-sectional view taken on the line 4-4 of FIGURE 2;

FIGURE 5 is a sectional view taken on the line 5-5 of FIGURE 4;

FIGURE 6 is the same assembly as shown in FIGURE 5, but with the shoestring knot housed within the receptacle and the receptacle and cap member having been rotated fully in one direction;

FIGURE 7 is an exploded view of a modified form of the shoe lace knot protector; and

FIGURE 8 is a cross-sectional view taken through the shoe lace knot protector of FIGURE 7, after the latter is in assembled relation.

Referring to the drawing, and more particularly to FIGURES 1 to 6, the shoe lace knot protector of the present invention is generally indicated by the numeral 10 and comprises a receptacle 12 which has a continuous wall 14 closed at its opposite ends by flat cover plates 16 and 18. In the cover plate 16 there is a slot 20 which extends inwardly from the perimeter of the cover plate 16 past the wall 14 to the central area of the cover plate 16. The continuous wall 14 of the receptacle 12 is provided with an opening 24 which extends therealong for a part of its length and which is in communication with the slot 20. Extending about the perimeter of the cover plate 16 of the receptacle 12 is a flange 26.

The protector also includes a cap member designated by the numeral 30 and which has a continuous wall 32 closed at its opposite ends by flat cover plates 34 and 16. The continuous wall 32 is provided with an opening 33 which extends therealong for a part of its length and which is of an area substantially equal to the area of the opening 24 in the wall 14 of the receptacle 12.

The cap member 30 is disposed upon the receptacle 12 so that the open end 36 engages the flange 26 at the cover plate 16 of the receptacle 12 with the continuous wall 32 surrounding the continuous wall 14 of the receptacle 12 and the cover plate 34 contiguous to the other cover plate 18 of the receptacle 12. Pin means connects the other cover plate 18 of the receptacle 12 and the cover plate 34 of the cap member 30 together for rotary movement of the receptacle 12 and cap member 30 relative to each other. The pin means comprises, FIGURE 4, a rivet 35 which extends through registering holes 37 and

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38 provided in the mid-points of the cover plates 18 and 34 of the receptacle 12 and cap member 30, respectively, with the ends of the rivet spread apart and engaging the cover plates 34 and 18.

Cooperating stop means is on the continuous walls 14 and 32 of the receptacle 12 and cap member 30 respectively, for limiting the degree of rotary movement of the receptacle 12 and cap member 30 relative to each other in opposite directions. Specifically, such means comprises, FIGURES 5 and 6, a ridge 40 formed on the outer surface of the continuous wall 14 of the receptacle 12 on each of the opposite sides of the opening 24 in the wall 14 and an abutment 42 projecting from the inner surface of the continuous wall 32 of the cap member 30, the abutment 42 being located about midway between the terminating points of the ridges 40.

As for the form illustrated in FIGURES 7 and 8, such form corresponds to the form of the protector shown in FIGURES 1 to 6 and described hereinabove, except for the pin means connecting the closed ends 18 and 34 of the receptacle 12 and cap member 30 together for rotary movement of the receptacle 12 and cap member 30 relative to each other. Specifically, the pin means of the form of FIGURES 7 and 8 comprises a pin 45 which extends through the hole 38 in and is integral with the cover plate 34 of the cap member 30 and depends therebelow, the dependent portion of the pin 45 being encompassed by the hole 37 in the cover plate 18 of the receptacle 12. The cover plate 18 of the receptacle 12 is held on the dependent portion of the pin 45 by means of a head 46 provided on the free end of the dependent portion of the pin.

In operation, the receptacle 12 and cap member 30 are rotated relative to each other until the openings 24 and 33 in the walls 14 and 32 of the receptacle and cap member are in registry with each other. Next, the shoestring knot is projected through the slot 20 and the registering openings 24 and 33 until it is confined within the receptacle 12, whereupon the receptacle 12 and cap member 30 are rotated in either one of the directions until the abutment 42 engages the end of the adjacent portion of one of the ridges 40. This rotation results in the shifting of the openings 24 and 33 out of registry and retains the knot within the receptacle 12. It is to be noted that the ridge 40 and the abutment 42 are in frictional engagement with the inner surface of the wall 32 of the cap member 30 and the outer surface of the wall 14 of the receptacle 12 respectively, and such engagement is of such degree that force applied by an adult is required to effect relative rotation of the receptacle 12 and cap member 30. Because of such engagement the protector 10 cannot be detached from the applied shoestring knot by a child wearer.

What is claimed is:

1. A protector for a shoe lace knot comprising a receptacle having a continuous wall closed at each end by a flat cover plate, there being a slot in one of the cover plates extending inwardly from the perimeter of the said one cover plate and past said continuous wall to the central area of said one cover plate, said continuous wall being provided with an opening which extends therealong for a part of its length and which is in communication with said slot, a cap member including a continuous wall and closed at one end by a flat cover plate and open at the other end and disposed upon said receptacle so that said open end is adjacent said one cover plate of said receptacle with said continuous wall of said cap member surrounding the continuous wall of said receptacle and the cover plate of said cap member contiguous to the other of the cover plates of said receptacle, the continuous wall of said cap member having an opening which extends

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therealong for a part of its length and which is of an area substantially equal to that of the opening in the continuous wall of said receptacle, and pin means connecting said other cover plate of said receptacle and the cover plate of said cap member together for rotary movement of said receptacle and cap member relative to each other.

2. The protector according to claim 1 which includes in addition cooperating stop means on the continuous walls of said receptacle and cap member for limiting the degree of rotary movement of said receptacle and cap member relative to each other in opposite directions.

3. A protector for a shoe lace knot comprising a receptacle having a continuous wall closed at each end by a flat cover plate, there being a slot in one of the cover plates extending inwardly from the perimeter of the said one cover plate and past said continuous wall to the central area of said one cover plate, said continuous wall being provided with an opening which extends therealong for a part of its length and which is in communication with said slot, a flange extending about the perimeter of said one cover plate of said receptacle, the slot in said one cover plate also extending through said flange, a

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cap member including a continuous wall closed at one end by a flat cover plate and open at the other end and disposed upon said receptacle so that said open end engages said flange with said continuous wall of said cap member surrounding the continuous wall of said receptacle and the cover plate of said cap member contiguous to the other of the cover plates of said receptacle, the continuous wall of said cap member having an opening which extends therealong for a part of its length and which is of an area substantially equal to that of the opening in the continuous wall of said receptacle, and pin means connecting the other cover plate of said receptacle and the cover plate of said cap member together for rotary movement of said receptacle and cap member relative to each other.

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