Oct. 23, 1962 H. L. NELSON 3,059,518

BRAIDED ELASTIC SHOE STRING

Filed Feb. 28, 1956

Fig. 1.

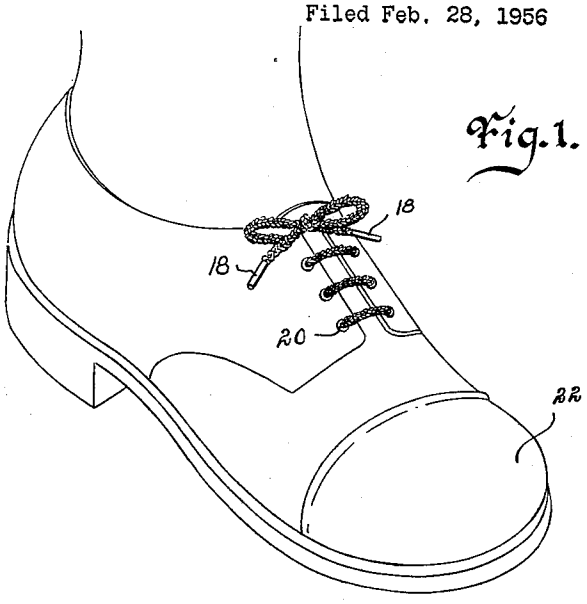


Fig. 2.

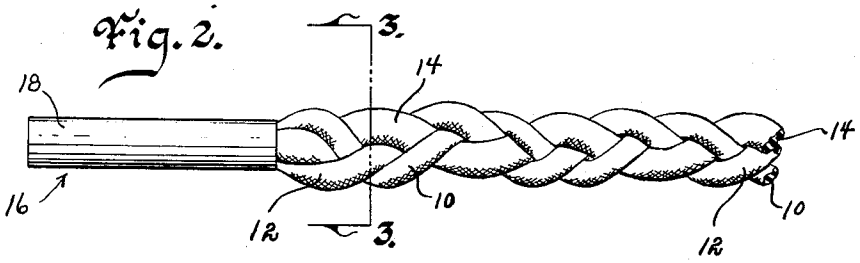
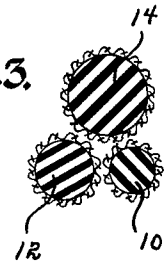


Fig. 3.



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BRAIDED ELASTIC SHOE STRING

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4 Claims. (Cl. 87—2)

My invention relates to improvements in shoe strings, and is a continuation in part of my application for United States Letters Patent on a braided elastic shoe string filed July 17, 1952, Serial No. 299,440, now abandoned.

Shoe strings are generally made from flexible but non-elastic material such as cotton, rayon, silk and sometimes of leather, the latter being used chiefly on boots and other heavy footwear. These items as now manufactured are smooth and cord-like and if not securely knotted and tied will easily slip and come loose. On the footwear of small children, especially, loose shoe strings are very common and aside from the fact that they must be repeatedly re-tied, they create a cause for injury from falls by children stepping on them and tripping. It will also be appreciated that a shoe string when tightly laced and tied affords little, if any, flexibility in the shoe at the point of lacing and that if loosely laced to provide some flexing, will frequently feel uncomfortable.

It is therefore one of the important objects of my invention to provide a new and different type shoe lace or shoe string from those now in use that embodies the use of three elastic string members braided together.

More specifically in my invention I provide a shoe string that has an uneven knotted or knurled surface formed by the braiding so that when tied into a knot or a bow, the resiliency of the elastic element will tend to compress the tied portions whereby the knotted or knurled surface anchors the string against slipping.

Other objects of this invention are to provide a shoe string of the above class that is economical in manufacture and attractive in appearance.

These and other objects will be apparent to those skilled in the art.

My invention consists in the combination of the various materials set out and in the manner described, whereby the objects contemplated are attained as hereinafter more fully set forth and specifically pointed out in my claims, and illustrated in the accompanying drawings, in which:

FIG. 1 is a perspective view of an item of footwear having applied thereto a preferred embodiment of my invention,

FIG. 2 is an enlarged elevational view of my new shoe string, and

FIG. 3 is a cross section view of my invention taken on the line 3—3 of FIG. 2.

Referring to the drawings, and particularly to FIG. 2, the numerals **10**, **12** and **14** respectively designate three like elongated elastic strands or cord-like members that are preferably circular in cross section. These strands **10**—**14** are braided together in a manner well known in the art to provide a single cord-like unit, string or lace as illustrated. The end portions of the resulting lace, of which one is shown generally at **16** may be enclosed in an elongated metal casing or bound with thread **18** to provide a relatively rigid portion for insertion through the eyelets **20** of an item of footwear **22**.

This shoe string is applied to footwear **22** in the customary manner and its advantages and novelty resides in its manufacture from elastic material and its irregular surface outline due to the braiding of at least three strands. It will be observed in FIG. 2 that because of the braiding, the resulting lace has an uneven serrated-like, scalloped, knotted or knurled appearance so that when different portions thereof are in engagement or intertwined as when tied in a knot or bow, the possibility of accidental slipping is eliminated for all practical purposes. The knurled-like surface itself of this new shoe string by its very nature will minimize the possibility of a tied shoe string coming untied but in addition thereto the elasticity of the strands will tend to keep the knot or bow tied so that these two elements in combination provide an entirely new and useful article of manufacture.

Another advantage of this item flowing from its elasticity is the fact that when applied to footwear as illustrated in FIG. 1 there is a certain flexibility permitted above the tongue of the shoe when the shoe is flexed. Thus the shoe string may be laced tight enough to afford a feeling of snugness, and yet will not be unyielding as is the case in shoe strings commonly in use.

To even more successfully aid in the knot remaining tied, I have amplified this scalloped or uneven periphery of the shoe string by making at least one of the strands of a diameter different than the others. In FIG. 3 I show all three strands of different diameters, i.e., strand **10** is the smallest, strand **14** the largest, and strand **12** of medium diameter. Still another method is to make all strands of the same diameter, but with at least one of the strands having greater elasticity than the others. This will make for an uneven braid. The scallops formed will be both longitudinally and transversely of the shoe lace. Of course by making all strands of different size, as shown in FIG. 3, each strand will have a different strength elasticity than that of the others.

This shoe string, when tied as illustrated, is susceptible of being easily untied upon the intentional application of a pulling force, and yet for reasons disclosed above, will not slip from the ordinary motion and movement of a shoe in walking. As a result it is an exceedingly useful item for children's footwear in particular, since it eliminates the danger of their tripping over loose shoe strings. It will be understood that while I preferably make my strands **10**—**14** circular in cross section, that they may have other and different shapes without departing from the principle of my invention.

It is submitted that the invention shown and described is aptly suited to achieve the purposes intended and is characterized by a combination of highly useful and mutually cooperating elements that combine their respective and proportionate functions in accomplishing the objects sought to be obtained.

Some changes may be made in the construction and arrangement of my braided elastic shoe string without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims, any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim:

1. As a new article of manufacture, an elastic shoe lace having an uneven scalloped external surface formed by braiding together at least three elastic strands at least one

of which has a diameter different than that of the other remaining strands; said scallops formed both longitudinally and transversely of said shoe lace.

2. As a new article of manufacture, an elastic shoe lace having an uneven scalloped external surface formed by braiding together at least three elastic strands each having a diameter different that that of the others; said scallops formed both longitudinally and transversely of said shoe lace.

3. As a new article of manufacture, an elastic shoe lace having an uneven scalloped external surface formed by braiding together at least three elastic strands at least one of which has a different elasticity than that of the other strands; said scallops formed both longitudinally and transversely of said shoe lace.

4. As a new article of manufacture, an elastic shoe lace having an uneven scalloped external surface formed by braiding together at least three elastic strands each having a different strength elasticity than the others; said scallops formed both longitudinally and transversely of said shoe lace.

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