

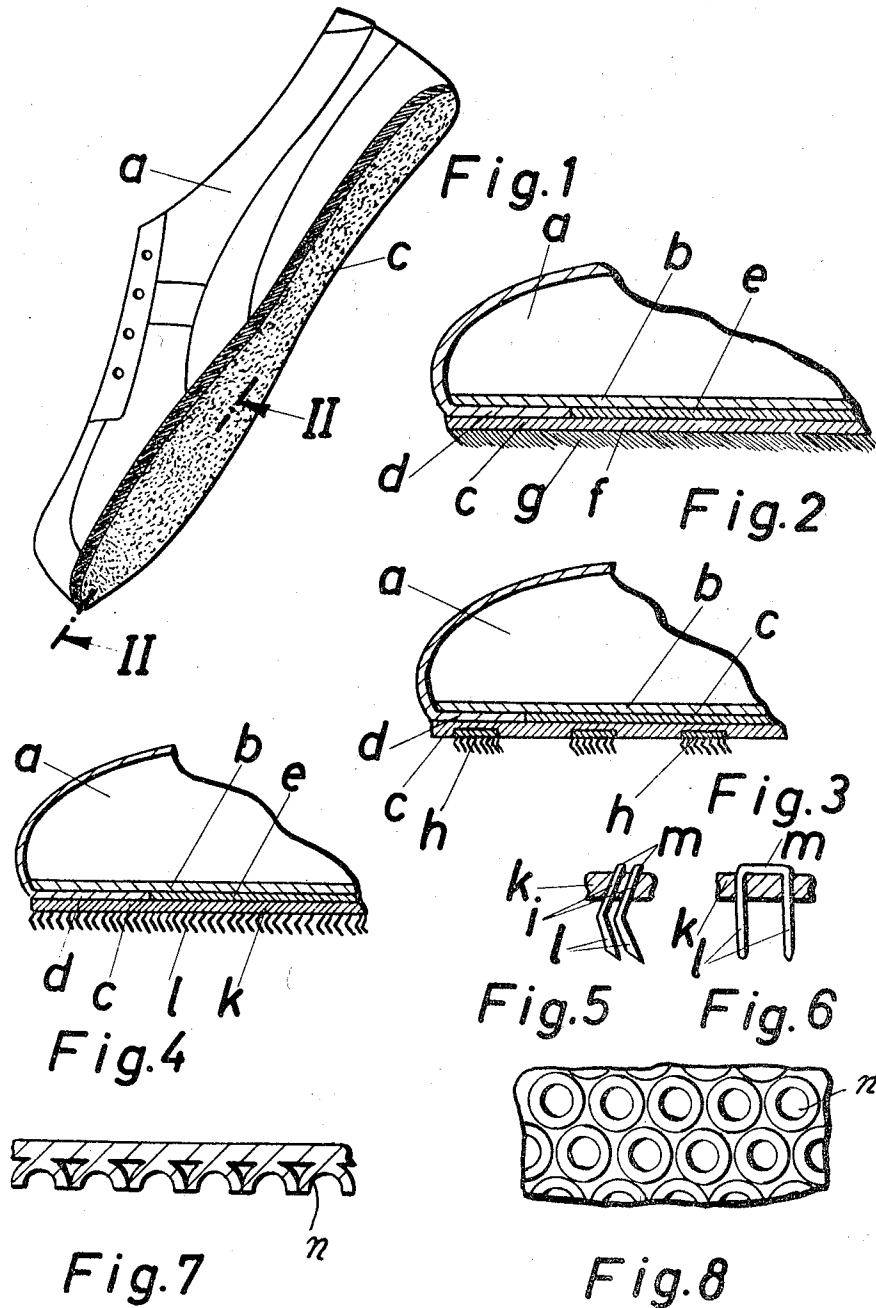
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SPORT SHOE

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3,555,697
SPORT SHOE

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4 Claims

ABSTRACT OF THE DISCLOSURE

A heelless sport shoe, particularly a track shoe, having a resilient sole covered with a multitude of antiskid elements in the form of spaced apart resilient protrusions.

The invention relates to a sport shoe and particularly to a track shoe for use on racing tracks and playing fields covered with a layer of a resilient synthetic plastic material having a rough surface.

Track shoes with spikes on the sole are known and suitable for cinder-covered racing tracks or playing fields as have been used for many years in sport competitions. More recently, racing tracks and playing fields covered with a layer of a synthetic plastic material with a resilient rough surface have become popular. There are now widely used tracks and playing fields covered with a synthetic resin material known and marketed under the trademark Tartan (trademark 767,385 of Minnesota Mining & Manufacturing Company).

Conventional track shoes with spikes are not suitable for use on racing tracks and playing fields covered with such resilient Tartan layer. When a track athlete races on a Tartan layer the spikes of conventional shoes will more or less deeply penetrate into the cover layer. Such penetration and subsequent withdrawal of the spikes at each step require an extra effort which appreciably affects the performance of the athlete.

Accordingly, it has been found desirable to provide a track shoe which is specially adapted for use on tracks and playing fields covered with a resilient layer as above referred to.

It is an object of the invention to provide a novel and improved track shoe which does not require an increased effort on the part of the athlete and which counteracts skidding or slipping on a track or playing field covered with a resilient layer, as hereinbefore referred to.

The aforepointed out objects, features and advantages and other objects, features and advantages which will be pointed out hereinafter are obtained by providing a track shoe, the sole of which is made of a flexible synthetic plastic material and has on its running surface spaced apart resilient protrusions giving the sole a strong grip on the track, thus counteracting skidding or slipping.

The concept of the invention is obtained by providing on the sole of the shoe a multitude of tightly bunched short bristles or fibers embedded on one end of the sole. The bristles or fibers may cover the entire area of the sole, but may be limited to localized areas. The bristles or fibers are preferably rearwardly slanted.

The invention further provides to use instead of bristles or fibers small suction cups which are preferably disposed in lengthwise and/or crosswise rows.

Finally, it is also possible to obtain the same effect by providing on the sole a multitude of protruding irregularly shaped and irregularly distributed surface elements.

The afore-indicated embodiments of the invention, and other embodiments which readily suggest themselves, have the advantage that sport shoes—and in particular track

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shoes—with an antiskid sole are thus available for racing tracks and playing fields covered with a resilient layer of a synthetic plastic material with a rough surface.

A further advantage of the sport shoe according to the invention is that the spikes which were heretofore deemed to be absolutely necessary, are no longer required thereby eliminating the additional effort as caused by need of forcing the spikes into the surface and pulling out the spikes at each step. Moreover, it has been found that the localized pressure caused by the mounting base of the spikes on the foot of the runner is avoided.

In the accompanying drawing, several preferred embodiments of the invention are shown by way of illustration and not by way of limitation.

In the drawing:

FIG. 1 is a perspective view of a track shoe according to the invention;

FIG. 2 is a fragmentary section taken on line II—II of FIG. 1;

FIG. 3 is a sectional view similar to FIG. 2, and showing a modification of the sole;

FIG. 4 is a sectional view also similar to FIG. 2, and showing another modification of the sole;

FIG. 5 is a fragmentary sectional view of FIG. 1 on an enlarged scale;

FIG. 6 is a sectional view of a modification of FIG. 5 turned through an angle of 90° with reference to FIG. 5;

FIG. 7 is a fragmentary sectional view of another modification of the sole; and

FIG. 8 is a bottom view of FIG. 7.

Referring now to the figures in detail, and first to FIGS. 1 and 2, the track shoe as shown in these figures should be visualized as being a generally conventional shoe, except for its sole. Accordingly, the shoe comprises an upper *a*; an inner sole *b*; an outer or running sole *c*; a turned-in toe portion *d*; and a filler layer *e* filling the gap left between the inner sole and the outer sole.

As is clearly shown in FIG. 2, the outer surface of sole *c* is composed of a carrier layer *f* in which are embedded in one end a multitude of tightly bunched fibers or bristles *g*, preferably rearwardly slanted. The bristles or fibers may be made of a resilient synthetic plastic material or of metal.

Experience and tests have shown that the provision of such bristles or fibers results in an increase of friction against the running surface such that slipping or skidding of the runner is practically excluded when the shoe is used on racing tracks or playing fields covered with a resilient layer of synthetic plastic with a rough surface as previously described.

As also previously described, shoe soles providing a comparable antiskid action on the cover layer are heretofore not available unless spikes were used.

FIG. 3 shows a modification in which the tightly bunched bristles or fibers are provided at localized areas only. The fibers or bristles may be embedded directly into the sole or in special inserts *h* preferably flush with the sole.

If instead of fibers or bristles made of a synthetic plastic material, metal bristles are to be used, such bristles are preferably in the form of thin resilient wire pieces *i*, the ends of which are embedded in a sole part *k* which may be visualized as a portion of the sole or as part of an insert such as shown in FIG. 3.

The protruding ends 1 of the wires are preferably rearwardly angled off, as is shown in FIGS. 4 and 5.

Crosswise adjacent wires may be joined to form U-shaped members *m*, as is shown in FIG. 6.

The wire bristles of FIGS. 4, 5 and 6 may occupy the entire sole or only localized areas thereof as is shown in FIG. 3.

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According to FIGS. 7 and 8, the desired antiskid action is obtained by providing a multitude of small suction cups *n* which may be disposed in lengthwise and/or crosswise rows. The suction cups may occupy the entire sole, or only part thereof.

What is claimed is:

1. A track shoe in coordination with an athletic track covered with a layer of resilient synthetic resin material having a roughened running surface, comprises:

- a flat sole made of synthetic resin material;
- a plurality of inserts embedded spaced apart in the sole on the running surface thereof and flush therewith; and

a multitude of elastic bristles embedded at one end in each of said inserts, the protruding portions of the bristles being flexible with reference one to another, said inserts constituting localized brushlike antiskid areas.

2. The sport shoe according to claim 1 wherein said bristles are made of a synthetic plastic material.

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3. The sport shoe according to claim 1 wherein said bristles are resilient metal bristles.

4. The sport shoe according to claim 1 wherein said bristles are all rearwardly slanted.

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