Nov. 13, 1962 W. S. BROUGH ET AL 3,063,165

AUXILIARY SOLE

Filed July 10, 1961

FIG. 1

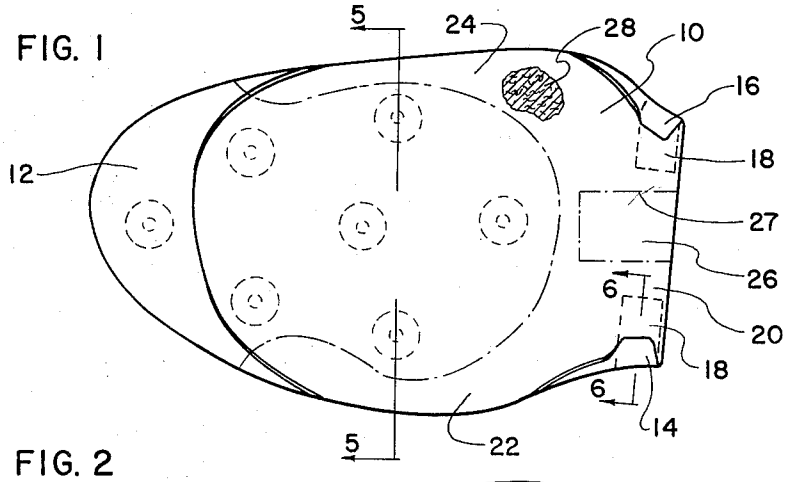


FIG. 2

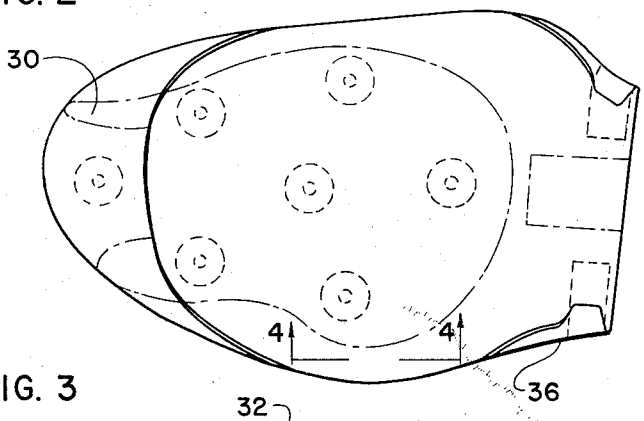


FIG. 3

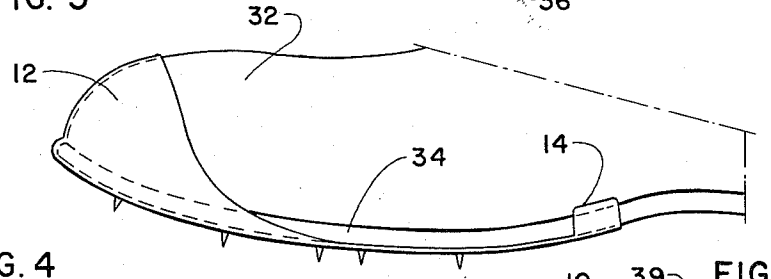


FIG. 4

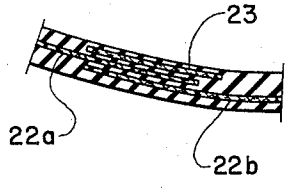


FIG. 5

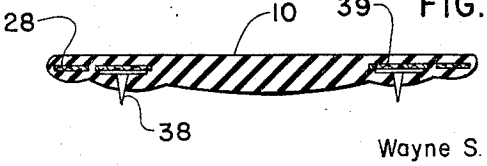


FIG. 6



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AUXILIARY SOLE

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The present invention relates to an auxiliary sole which may be temporarily worn over an ordinary street shoe to prevent slipping.

It is often desirable to have available means for increasing one's footing by a device which may be readily attached to an ordinary street shoe. Such devices are useful to participants in such sports as golf, baseball, bowling, etc., and also are desirable to prevent slipping when wearer is walking on slippery surfaces. Although there are specific shoes provided with build-in anti-slipping means, it is also desirable to provide temporary anti-slipping means for attaching to ordinary street wear in order to adapt such foot wear to non-slipping uses and to provide temporary, easily detachable anti-slipping means to street shoes.

It has previously been proposed to provide auxiliary soles having surface engaging means thereon to prevent slipping. However, such devices have not been entirely satisfactory since the device either will not stay on the shoe or apparatus devised to keep the auxiliary sole on the shoe is inflexible, complex, subject to fouling, adds substantial weight to the auxiliary sole, or is otherwise unsuitable for general use. One serious deficiency in the prior art devices is that they tend to work loose from the shoe when the wearer is walking, particularly when the wearer is engaging in athletic activities as aforementioned.

Accordingly, it is an object of our present invention to provide an auxiliary sole having non-slipping means thereon for positioning over an ordinary street shoe whereby the auxiliary sole firmly adheres to the shoe while the wearer is walking.

It is also an object of the present invention to provide a detachable auxiliary sole which may be easily attached to the street shoe without adjustment of the auxiliary sole.

Another object of our present invention is to provide an auxiliary sole which is attachable to shoes to prevent slipping, having limited stretch means to facilitate attachment of the auxiliary sole to the street shoe.

A further object of the present invention is to provide a relatively light-weight detachable auxiliary sole for the prevention of slipping, which sole has limited stretchability.

Other objects and a more complete understanding of our present invention will become apparent from the following specification and the appended claims, taken in conjunction with the drawings, wherein:

FIGURE 1 shows in plan view one embodiment of our present invention;

FIGURE 2 shows another embodiment of our present invention in plan view;

FIGURE 3 shows in elevational view the device of our present invention attached to a shoe;

FIGURE 4 shows in cross section a modification of our present invention;

FIGURE 5 shows a sectional view taken on 5—5 of FIGURE 1.

FIGURE 6 is an enlraged sectional view on 6—6 of FIGURE 1 showing the clamp embedded in the shank retaining portion.

Referring more particularly to the drawings, FIGURE 1 shows the auxiliary sole 10 of our present device having a toe portion 12 adapted for positioning over the toe of

a street shoe and shank retaining portions 14 and 16 which have rigid clamp members 18 embedded therein (as shown in FIGURE 6) for securing the auxiliary sole to the sole of a shoe behind the shank portion of the sole. The overall length of the auxiliary sole is such that after the toe portion is placed on the shoe the rear portion 20 must be stretched in order to place the clamp containing shank retainers 14 and 16 over the narrowed sole area behind the shank of the shoe, thus tensioning the sole somewhat to provide a tight fit on the shoe. The narrowed area rearward of the flared portion of the sole of the shoe is referred to in this specification as the shank area. Despite the tight fit achieved as above described, it has been found that the auxiliary sole tends to work off the shoe during walking, particularly when pivoting, because of the unlimited elasticity along the sides of the stretchable auxiliary sole, for example, in the areas 22 and 24. We have discovered, however, that if the elasticity of the auxiliary sole is limited in these areas, the auxiliary sole will not work off of the shoe. The stretch can be limited, for example, by embedding a thin flexible member in the sole, such as the member shown in phantom in FIGURE 1. Preferably this member is a cloth-like material such as canvas, however it may be any lightweight flexible, relatively non-stretchable material which will adhere to the like material of the auxiliary sole.

It has been discovered that a maximum amount of stretch is desirable in the area 26 between the clamps to permit the clamps to be stretched to fit over the edges of the shoe soles, as shown in FIGURE 3. This is important since shoe sole widths of different street shoes may vary greatly. Thus the reenforcing member 28, shown in phantom line has a cut-out region 27 between the clamps in the area 26 in order to permit stretching of the clamps into positioning over the sole of the shoe.

In FIGURE 2 a modification of our present invention is shown whereby the reenforcing member 28 extends over the toe portion as at 30 (shown in phantom) in order to provide increased rigidity on the side of the auxiliary sole to further prevent slippage of the auxiliary sole from the shoe. It has been found that this additional reenforcement prevents the sides of the sole from stretching sufficiently to permit the sole to work loose of the shoe.

FIGURE 3 shows the sole with a toe portion 12 positioned over the shoe 32 and with the clamp reenforced shank retainer portion 14 gripping the sole 34 of the shoe in the shank area 36 of the shoe.

The expression "surface engaging means" includes such means as the lower face of an auxiliary sole, or a sole provided with golf spikes, baseball spikes, rubber treads, cleats, ice grips, etc. In the embodiment shown in FIGS. 2, 3, and 5, the surface engaging sole 10 is provided with golf spikes 38. The spikes 38 are attached to spike plates 39 and are preferably backed with canvas as shown in FIG. 5 to prevent the spike plate from cutting into the auxiliary sole.

A modification of our present invention providing a limited stretch is shown in FIGURE 4. In this modification the reenforcing web 22 is segmented and overlapped as shown by segmental members 22*a* and 22*b* to provide flexibility and yet give limited stretch for positioning the rear portion 20 of the auxiliary sole on the shank of the shoe. In order to limit this flexibility, however, an additional cloth-like web member 23 is provided.

FIGURE 5 shows the reenforcing member 28 embedded in the sole material 10 with the spikes 38 extending through the sole as previously mentioned. Preferably the auxiliary sole is made of a rubber or synthetic rubber material.

The clamp members 18 are embedded in the sole member, as shown in FIGURE 6. Preferably these clamp

members are of a spring steel. However, any strong rigid material may be used, such as a phenolic resin. Adherent of the rubber auxiliary sole material to the clamp may be facilitated by perforating the clamp members.

Although we have described our present invention with a certain degree of particularity in order to set forth the best known embodiment, our invention is not to be limited to the details set forth, but should be afforded the full scope of the appended claims.

We claim:

1. An auxiliary sole adapted to removably attach surface engaging means to a shoe having a toe portion, a shank portion, and a shoe sole, comprising in combination: a sole portion having surface engaging means thereon, said sole portion having a toe section for positioning over the toe portion of said shoe and a shank retaining portion on each of the rear corners of said sole portion, a rigid clamp secured to each of said shank retaining portions to reenforce said retaining portions, said clamp reenforced shank retaining portion engaging said shoe sole in said shank area whereby said sole portion is tensioned on said shoe between said toe section and said shank retaining portion, and a flexible reenforcing member embedded in said sole portion and adhering thereto, said reenforcing member extending from the rear of said sole portion to the toe section of said sole portion.

2. The auxiliary sole of claim 1 wherein said reenforcing member is a canvas material.

3. The auxiliary sole of claim 1 wherein said surface engaging means are provided with golf spikes.

4. An auxiliary sole adapted to removably attach surface engaging means to a shoe having a toe portion, a shank portion, and a shoe sole, comprising in combination: a sole portion having surface engaging means thereon, said sole portion having a toe section for positioning over the toe portion of said shoe and a shank retaining portion on each of the rear corners of said sole portion, a rigid clamp secured to each of said shank retaining portions to reenforce said portions, said clamp reenforced shank retaining portion engaging shoe sole in said shank area whereby said sole portion is tensioned in said shoe between said toe section and said shank retaining portion, and a flexible reenforcing member embedded in said sole portion and adhering thereto, said reenforcing member extending from the rear of said sole portion over the toe portion of said sole portion.

5. An auxiliary sole adapted to removably attach surface engaging means to a shoe having a toe portion, a shank portion, and a shoe sole, comprising in combination: a sole portion having surface engaging means thereon, said sole portion having a toe section for positioning over the toe portion of said shoe and a shank retaining portion on each of the rear corners of said sole portion, a rigid clamp secured to each of said shank retaining portions to reenforce said portions, said clamp reenforced shank retaining portion engaging said shoe sole in said shank area whereby said sole portion is tensioned on said shoe between said toe section and said shank retaining portion, and a flexible reenforcing member embedded in said sole portion, said reenforcing member extending from the rear of said sole portion to the toe section of said sole portion and adhering thereto, said reenforcing member being diminished in the area between said shank retaining portions.

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