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(54) **SHANK GUARD**

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(57) **ABSTRACT**

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A novel removable boot attachment for protecting workboot shanks and soles.

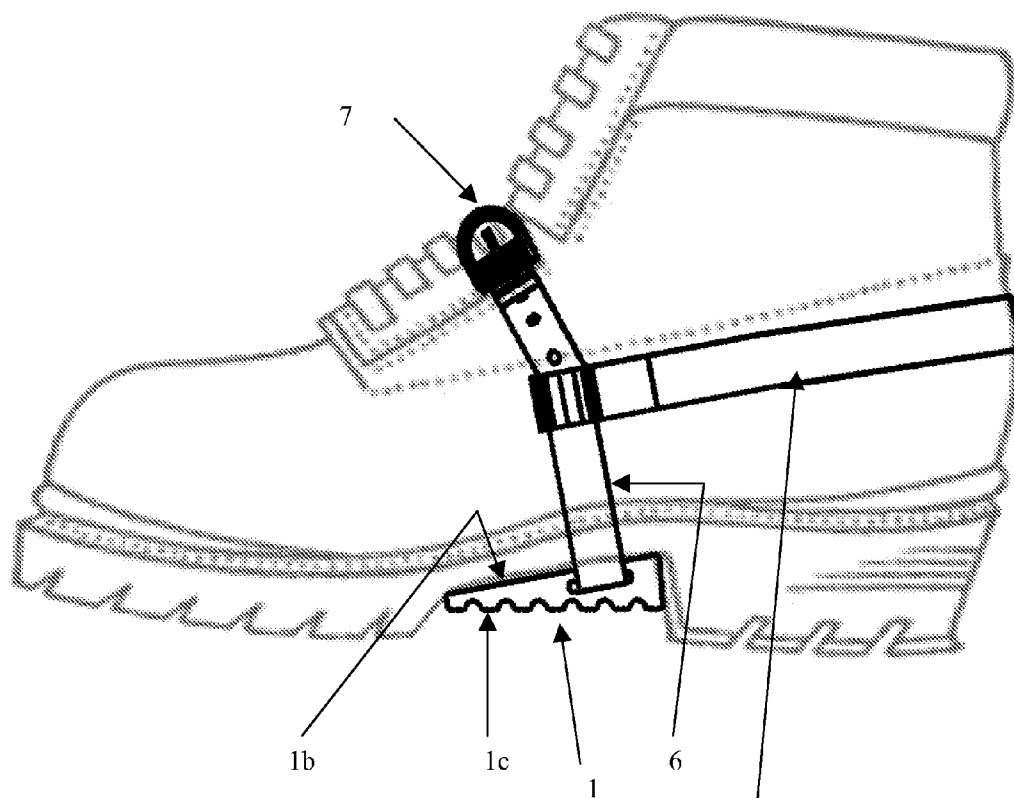


FIG. 1A

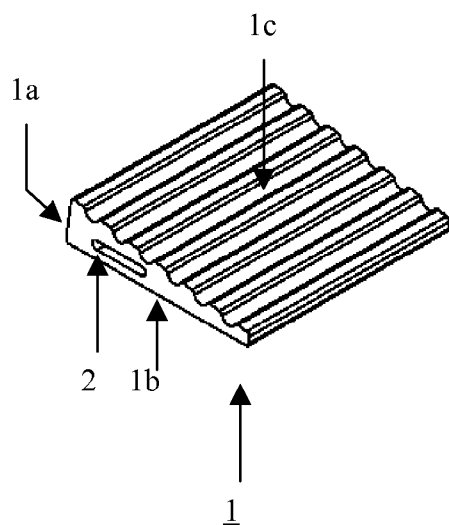


FIG. 1B

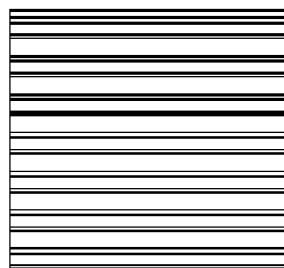


FIG. 2A

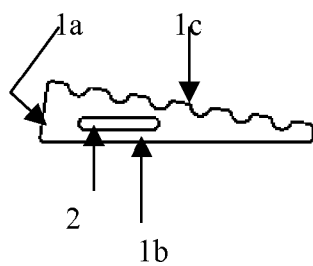


FIG. 2B



FIG. 3A

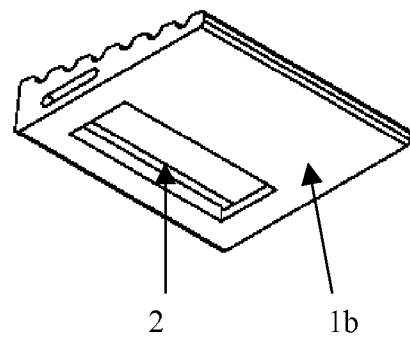


FIG. 3B

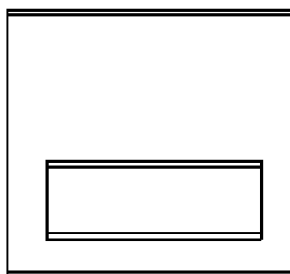


FIG. 4A

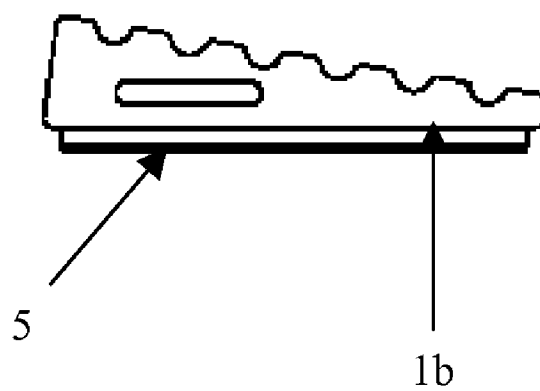


FIG. 4B

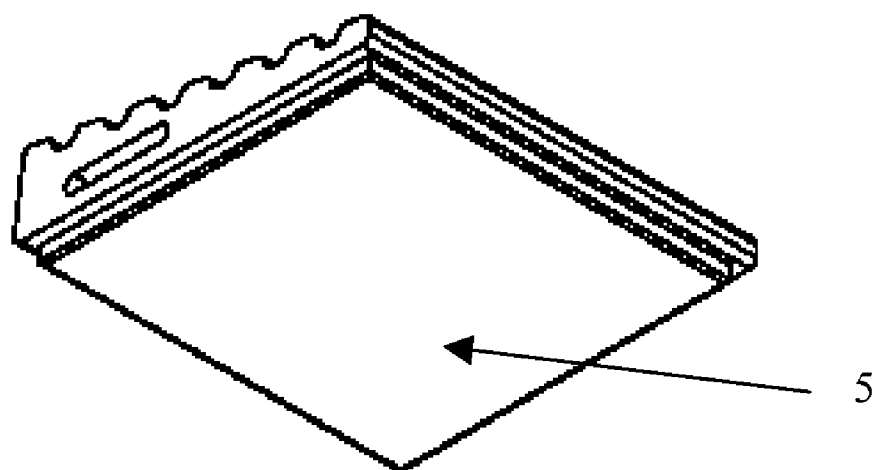


FIG. 5A



FIG. 5B

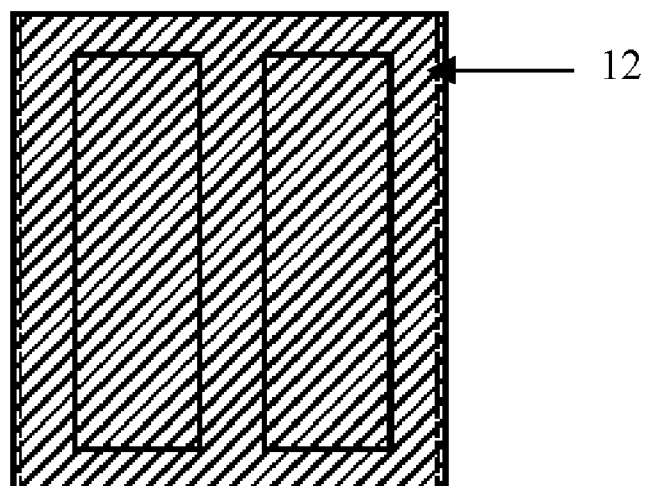


FIG. 5C

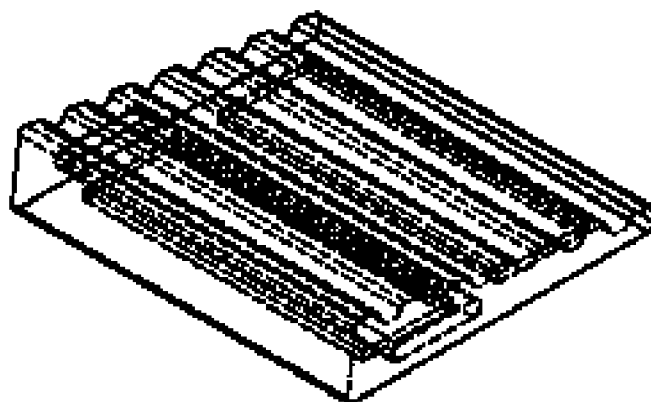


FIG. 6A

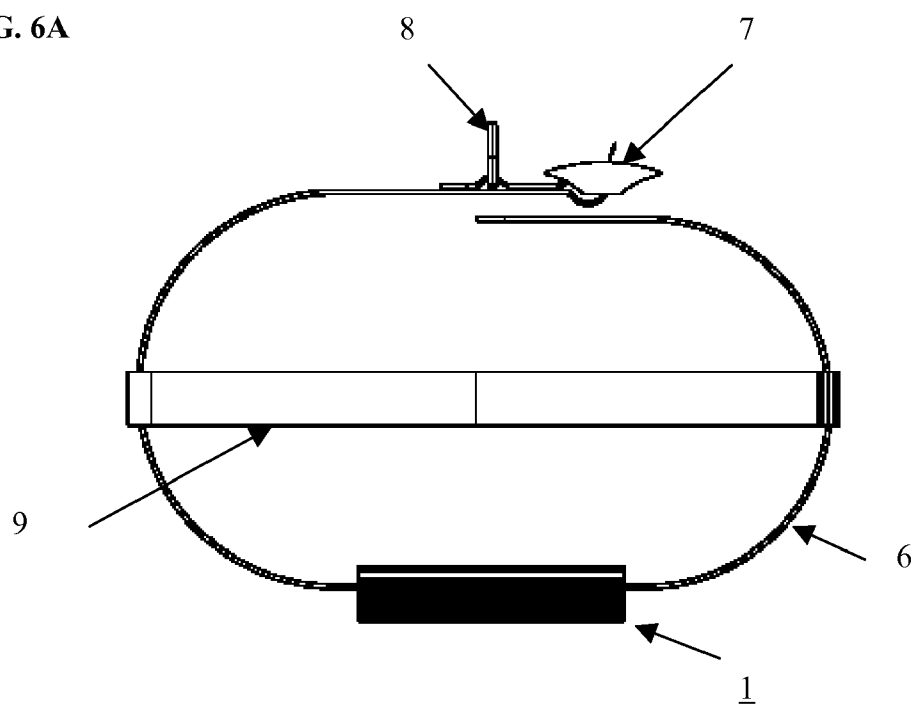


FIG. 6B

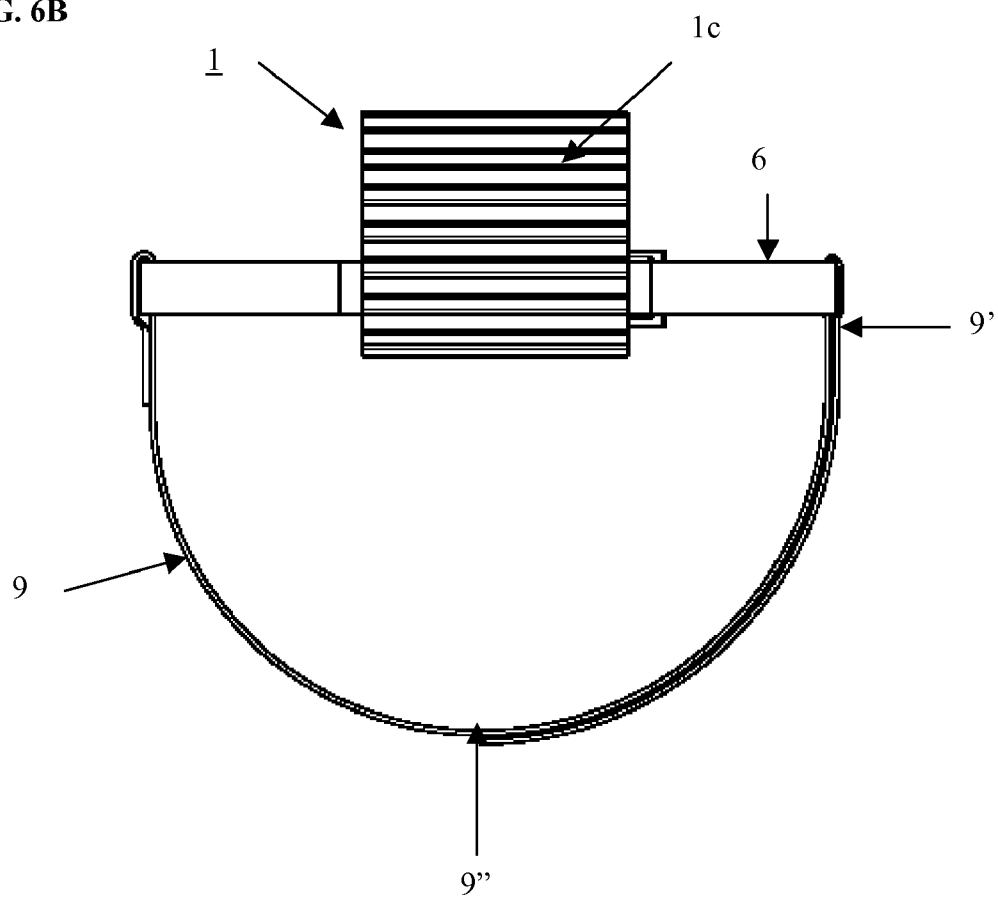


FIG. 6C

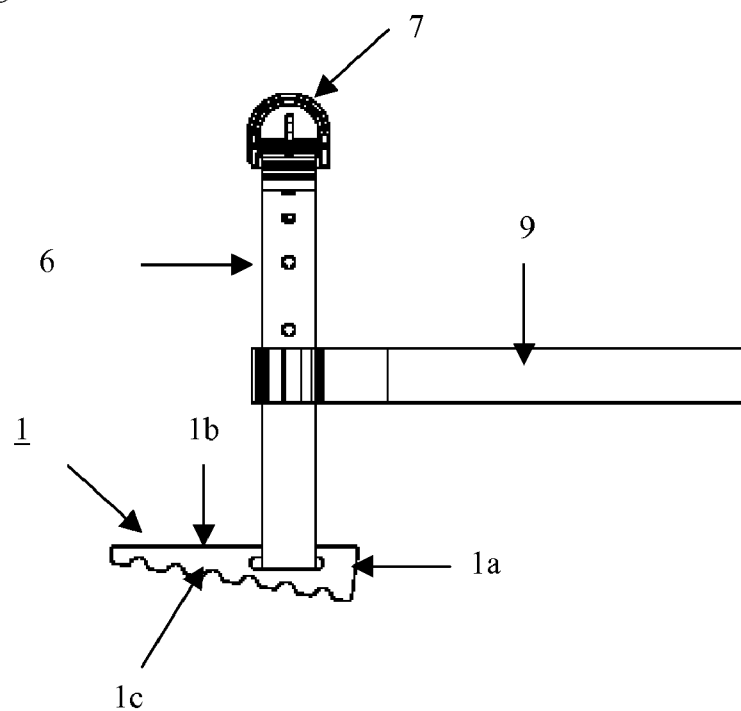


FIG. 6D

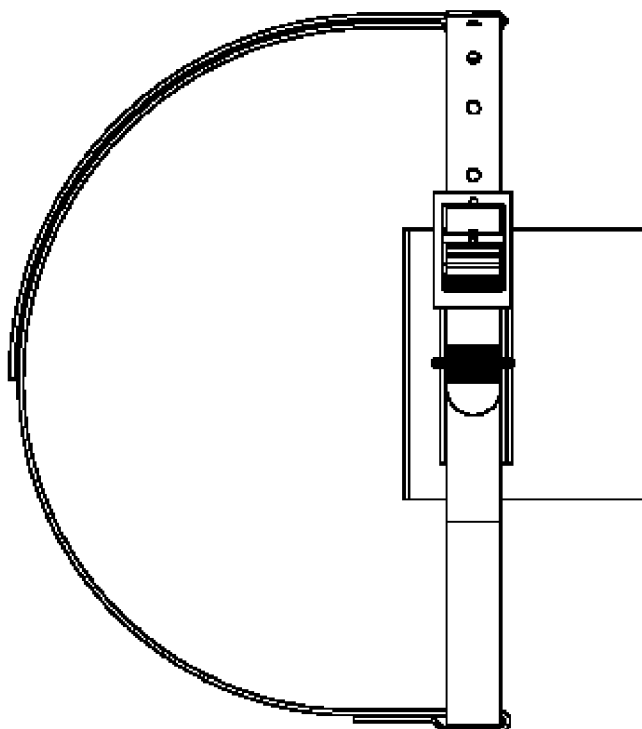


FIG. 7

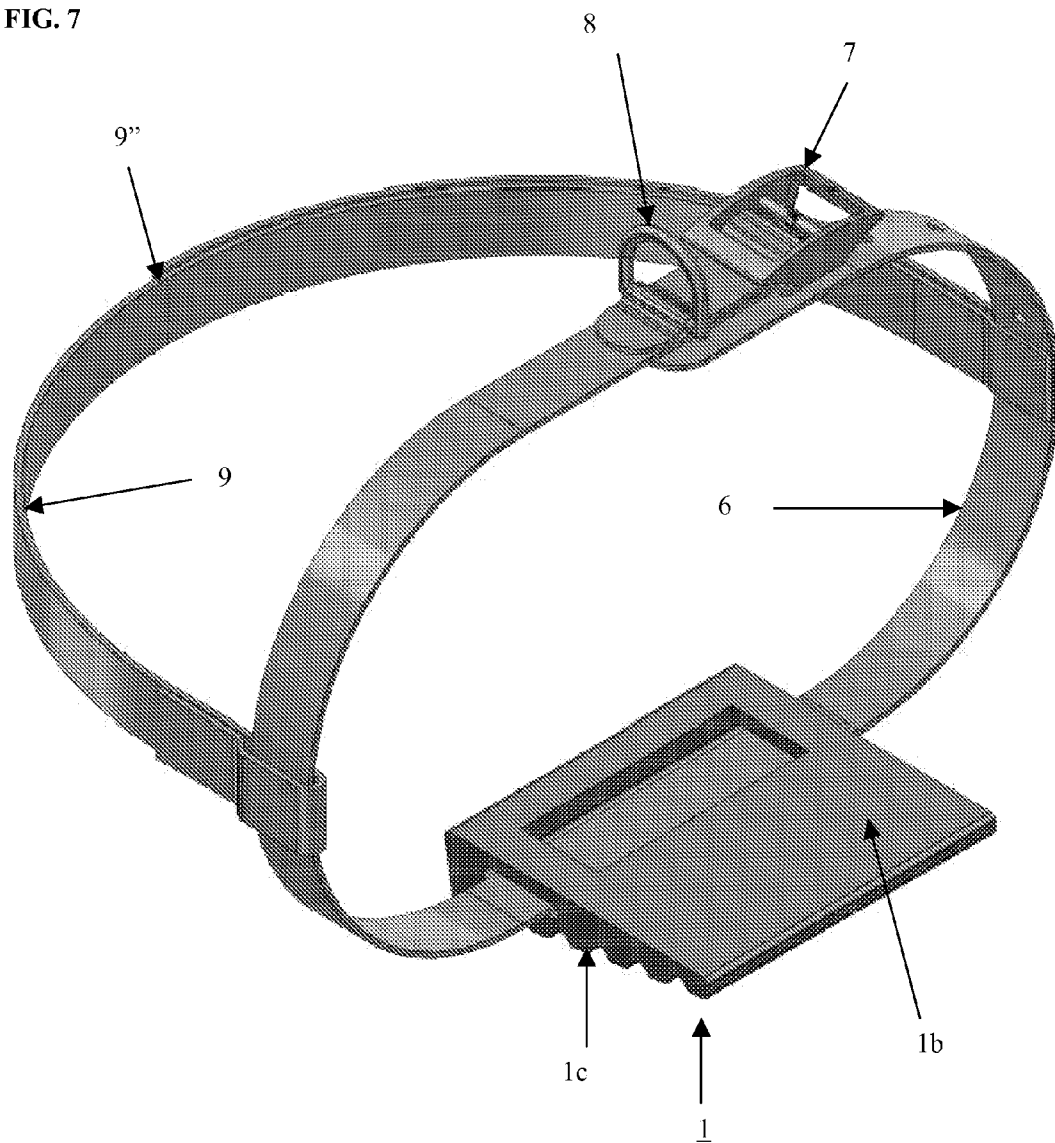
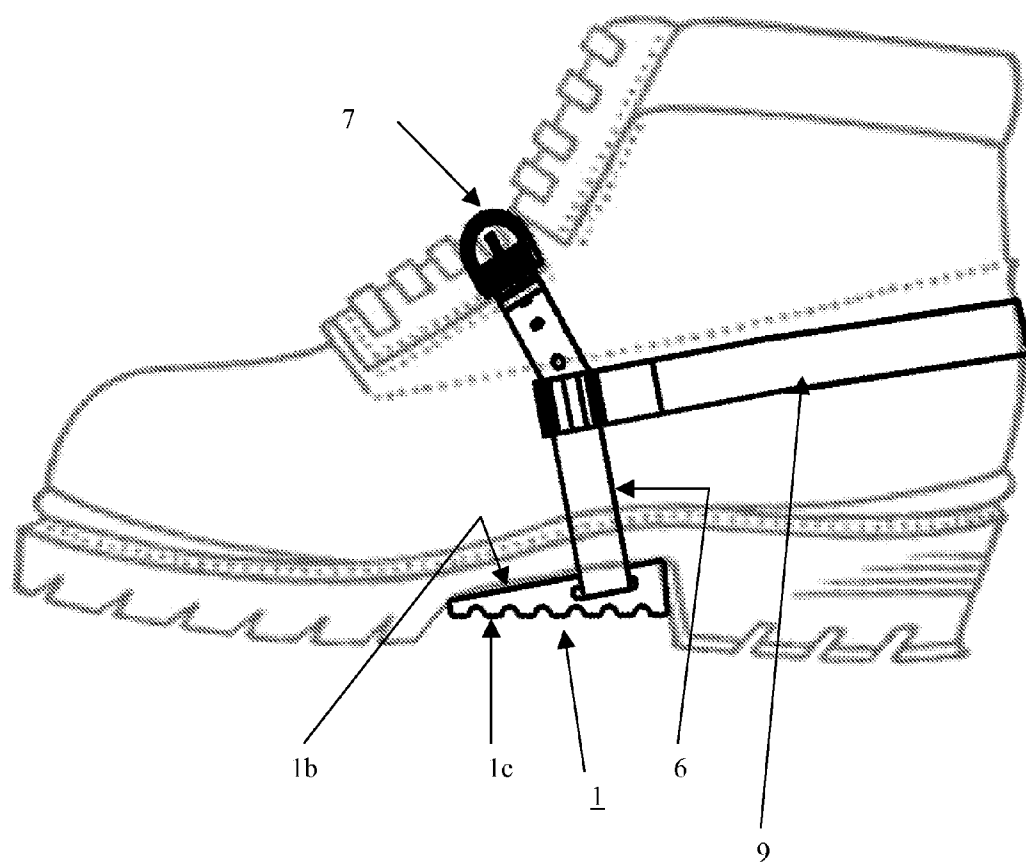


FIG. 8



SHANK GUARD

FIELD OF THE INVENTION

[0001] This invention relates to the design and construction of a novel removable boot attachment for protecting work-boot shanks and soles.

BACKGROUND OF THE INVENTION

[0002] The present invention describes a wedge shaped device, constructed of any suitable material, including but not limited to metals, plastics and rubbers, removably fastened to the underside of a boot to protect the boot shank and the user's foot from the impact force of kicking a shovel or other object. The device may be removably affixed to the boot bottom via straps, a hook and loop closure system (a/k/a "Velcro") or other suitable means.

[0003] While working with shovels or other digging implements, workers will often place considerable force on the longitudinal and transverse arch portion of a foot and its accompanying footwear. This area is also known as the shank and is that portion of the footwear sole immediately preceding the heel. Kicking of a shovel or other tool with this portion of the foot is common and results in many types of foot injuries and in accelerated wear of the footwear sole. Similarly, this portion of the foot and footwear is often used to kick or provide leverage in any number of physical activities. Linemen (pole climbers) in particular, rely upon this isolated portion of the foot and footwear to support the entire weight of their bodies and workload when ascending or descending poles utilizing gaff hooks (pole spikes). In the above examples, the undue force and stress on this portion of the foot and footwear creates a higher risk of injury to the user and damage to the footwear.

[0004] Reinforced work boots are available to help reduce the risk of injury or damage. In the case of linemen, steel shanks are utilized in the linemen boot arches to help support the lineman's weight on the gaff hook. While the steel shank may reduce the stress of isolating weight on the narrow gaff hook, it does not reduce the accelerated wear on this portion of the boot sole caused by repeated climbing activities. Furthermore, a steel shank does little to nothing in protecting a foot from the shock and vibration transmitted through the boot when the arch is utilized in digging or kicking activities.

[0005] In view of the prior arts' shortcomings, it is thus desirable to create a user replaceable, removable boot attachment designed to protect a boot sole from damage caused by stress to the arch portion of the sole and to further protect a user's foot arch from the stress of various activities as described herein.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIGS. 1A-1B are an elevation view from the bottom (1A) and a bottom view (1B) of one embodiment of the shank guard.

[0007] FIGS. 2A-2B are side views of the shank guard.

[0008] FIGS. 3A-3B are an elevation view from the top side (3A) and a top view (3B) of the shank guard.

[0009] FIGS. 4A-B are a side view and a top elevation view of the shank guard with a rubber cushion affixed to the top side.

[0010] FIGS. 5A-5C are a side (5A) top (5B) and bottom (5C) view of the shank guard with a hook and loop closure system affixed to the top surface.

[0011] FIG. 6A is a front view, omitting the footwear, showing the front-side of the shank guard and the two strap system secured with buckle and keeper.

[0012] FIG. 6B is a bottom view, omitting the footwear, showing the bottom of the shank guard and a two strap system secured with a hook and loop closure system.

[0013] FIG. 6C is a right hand view, omitting the footwear, showing a side view of the shank guard and the two strap system designed to be secured with a buckle.

[0014] FIG. 6D is a top view, omitting the footwear, showing the top side of the shank guard, and the two strap system secured by a buckle and keeper.

[0015] FIG. 7 is top elevation view of the shank guard with the two strap system, buckle and keeper as would be positioned on footwear.

[0016] FIG. 8 is side view of the shank guard and two strap system with buckle and keeper, shown positionally secured on a boot as described and claimed.

DETAILED DESCRIPTION OF THE INVENTION

[0017] Shown in FIGS. 1A-1B is the device (1) which is substantially wedge shaped and sized to fit to the underside of a boot sole. One side (1a) abuts adjacent a boot heel and may be referred to as the rear. The top surface (1b) abuts the boot sole and the bottom surface (1c) is exposed to the walking or work surface when installed on the boot. The bottom surface may contain ribs to offer a secure and non-slip contact point for climbing or applying leverage against a tool. A slot (2) may be cut into the device for purposes of securing said device to a boot with a strap.

[0018] Shown in FIGS. 2A-2B are side views of the shank guard. The top surface (1b), bottom surface (1c) and boot heel or back surface (1a) being indicated therein. The slot (2) is indicated and ribs on the bottom surface are indicated.

[0019] Shown in FIGS. 3A-3B are elevation views from the top side (1b) indicating the slot (2) of the shank guard.

[0020] Shown in FIGS. 4A-4B is the shank guard with a rubber cushion (5) affixed to the top side (1b) of the shank guard.

[0021] Shown in FIGS. 5A-5C are the shank guard with a hook and loop closure system (12) affixed to the top side (1b) of the shank guard. The closure system (12) may be mated with a complementary closure system attached to the footwear in lieu of, or in addition to, other securing means.

[0022] Shown in FIGS. 6A-6D are four views of the shank guard and two strap system as would be positionally related, but omitting the footwear. FIG. 6A shows a front view wherein the shank guard (1) has a first strap (6) passing through a slot (2), wrapping vertically around the instep/toe section of a boot (omitted) and secured by a buckle (7) and keeper (8). Other closure means such as a hook and loop closure system typically known by the trademark "VEL-CRO" may be utilized for securing the first strap in a closed position. A second strap (9) is secured to said first strap (6) and wraps around the ankle/heel portion of the footwear and may be secured by similar means. The device slot (2) may be manufactured with an opening as pictured along the top surface of said device in FIGS. 3A-3C to facilitate insertion and removal of first strap (6).

[0023] Shown in FIG. 6B is a bottom view of the shank guard and strap system with the shank guard (1) bottom (1c) being evident with ribs or ridges, first strap (6) shown in position through the device slot (2) (not shown), and second strap (9) attached to first strap (6). Second strap (9) is shown

with extra length being securely adjusted by a hook and loop closure system at points between 9' and 9". Point 9" approximates the rear ankle or heel area of the footwear (omitted).

[0024] Shown in FIG. 6C is a side view of the shank guard (1) with first strap (6) through slot (2) and second strap (9) positioned on first strap (6). Buckle (7) would be positioned approximately atop the instep/toe portion of the footwear (omitted).

[0025] FIG. 6D shows a top view of the shank guard and two strap system assembly.

[0026] Shown in FIG. 7 is a further elevation view of the shank guard and two strap system in positional relationship with footwear omitted.

[0027] Shown in FIG. 8 is a side view of the shank guard positioned on a boot and secured through its slot with a first strap wrapped about the instep/toe portion of the boot and secured with a buckle, and a second strap, secured to the first strap, the second strap wrapped about the ankle/heel portion of the boot.

[0028] The descriptions and embodiments described and pictured are instructive of the device and securing attachments and it is noted that equivalent structures may be adapted and utilized to accomplish the intended purposes. For example, any shoe or other footwear may be substituted for a boot. The shank guard may be constructed of metals, plastics, rubbers, polymers or any combination thereof, suitable to withstand its intended function. Similarly, any securing means which may allow attachment and removal of the shank guard from footwear without functional damage to the footwear may be suitably substituted for the strap and hook and loop closure attachments. Such securing means may include cements, glues, spikes or tabs designed to fit into a complementary slot cut into a boot heel.

What is claimed:

1. A device, substantially wedge shaped, sized to fit to the underside of a boot sole and adjacent a boot heel without impeding normal function of the boot for walking.

2. The device of claim 1 wherein said device includes a securing means to secure said device to said boot sole.

3. The device of claim 1 wherein said device includes ribs along the bottom surface of said device.

4. The device of claim 2 wherein said device includes ribs along the bottom surface of said device.

5. The device of claim 1 wherein said device includes a slot for the passage of a strap to secure said device to said boot sole.

6. The device of claim 2 wherein said device includes a slot for the passage of a strap to secure said device to said boot sole.

7. The device of claim 3 wherein said device includes a slot for the passage of a strap to secure said device to said boot sole.

8. The device of claim 6 wherein the securing means comprises a first strap designed to hold the device to the underside of a boot sole while said first strap is wrapped about the instep/toe portion of the boot and secured with a buckle, and a second strap designed to be secured to the first strap, the second strap wrapped about the ankle/heel portion of the boot and secured with a hook and loop and closure system.

9. The device of claim 6 wherein the securing means comprises a first strap designed to hold the device to the underside of a boot sole while said first strap is wrapped about the instep/toe portion of the boot and secured with a hook and loop and closure system, and a second strap designed to be secured to the first strap, the second strap wrapped about the ankle/heel portion of the boot and secured with a hook and loop closure system.

10. The device of claim 6 wherein the securing means comprises a hook and loop closure system applied to the underside of a boot sole and a complementary hook and loop closure system applied to the top surface of the device.

11. The device of claim 8 wherein said device includes ribs along the bottom surface of said device.

12. The device of claim 9 wherein said device includes ribs along the bottom surface of said device.

13. The device of claim 10 wherein said device includes ribs along the bottom surface of said device.

14. The device of claim 1 wherein said device further includes an integral pad of rubber affixed to the top surface.

15. The device of claim 14 wherein said device includes ribs along the bottom surface of said device.

16. The device of claim 2 wherein said device further includes an integral pad of rubber affixed to the top surface.

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