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(54) **APPARATUS FOR STABILIZING A TRIPOD**

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(57) **ABSTRACT**

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An application for a tripod stabilizer for holding steady a leg of a tripod includes an enclosure that has a mass disposed within it and an orifice in a top surface of the enclosure for accepting the pointed tip of the tripod leg. A strap for removably holding the tripod leg is attached at one end to the tripod stabilizer and a latch on the enclosure is adapted to accept a distal end of the strap for holding tight the tripod leg.

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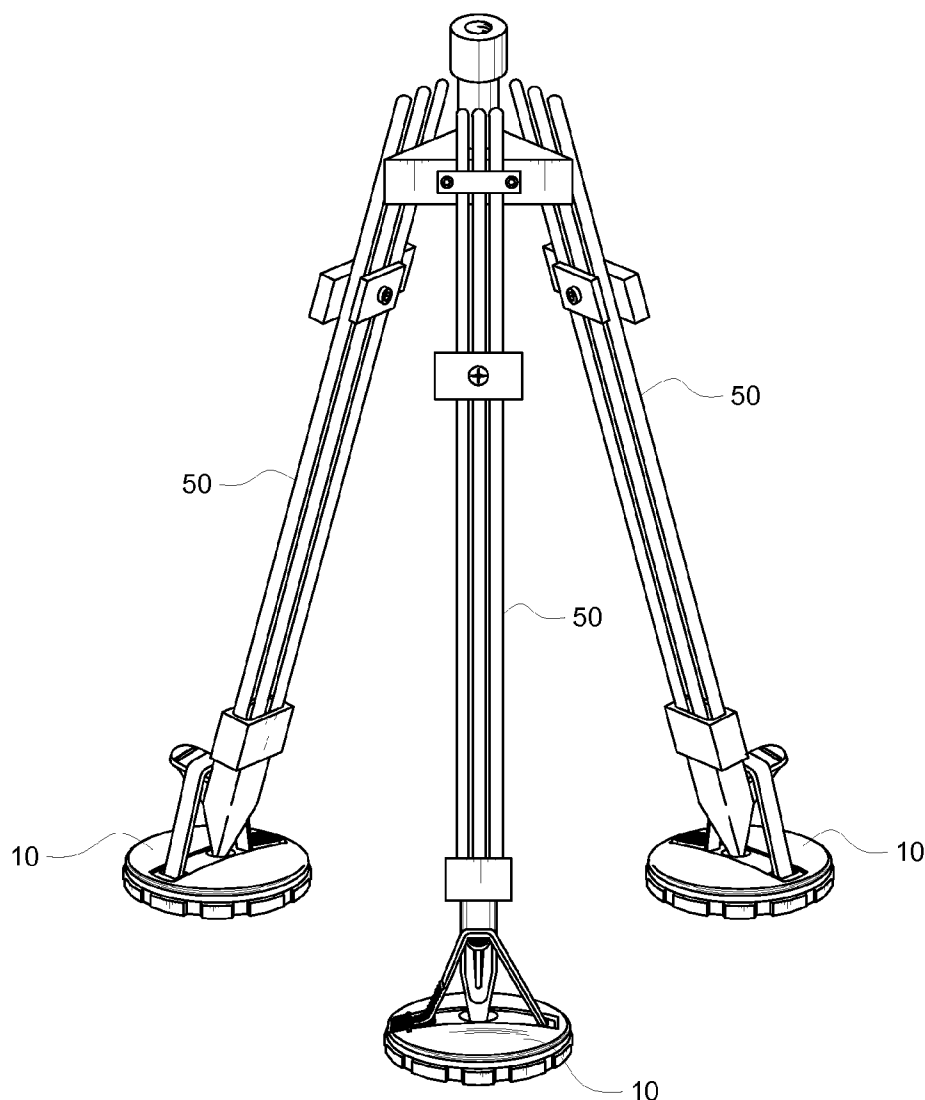


FIG. 1

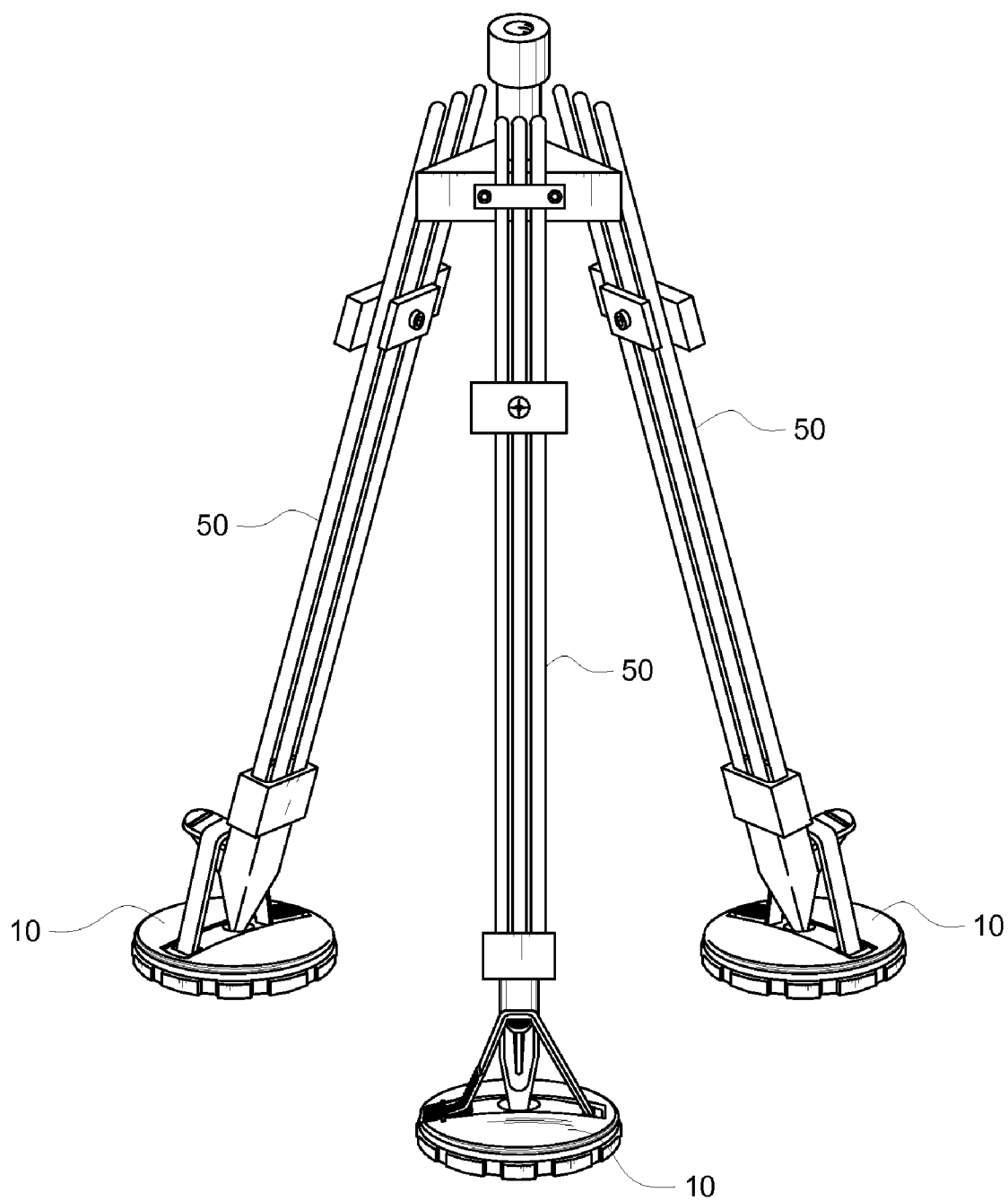


FIG. 2

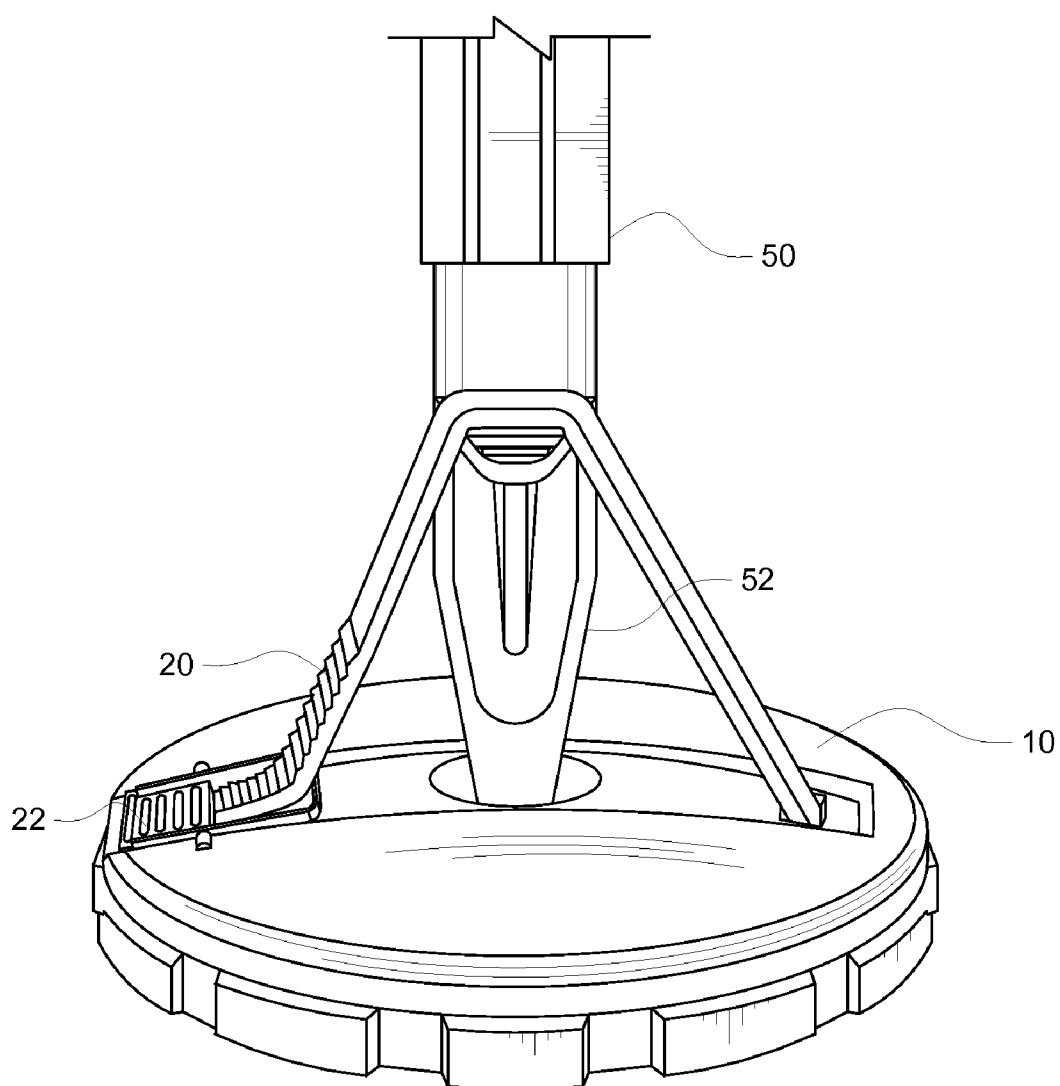


FIG. 3

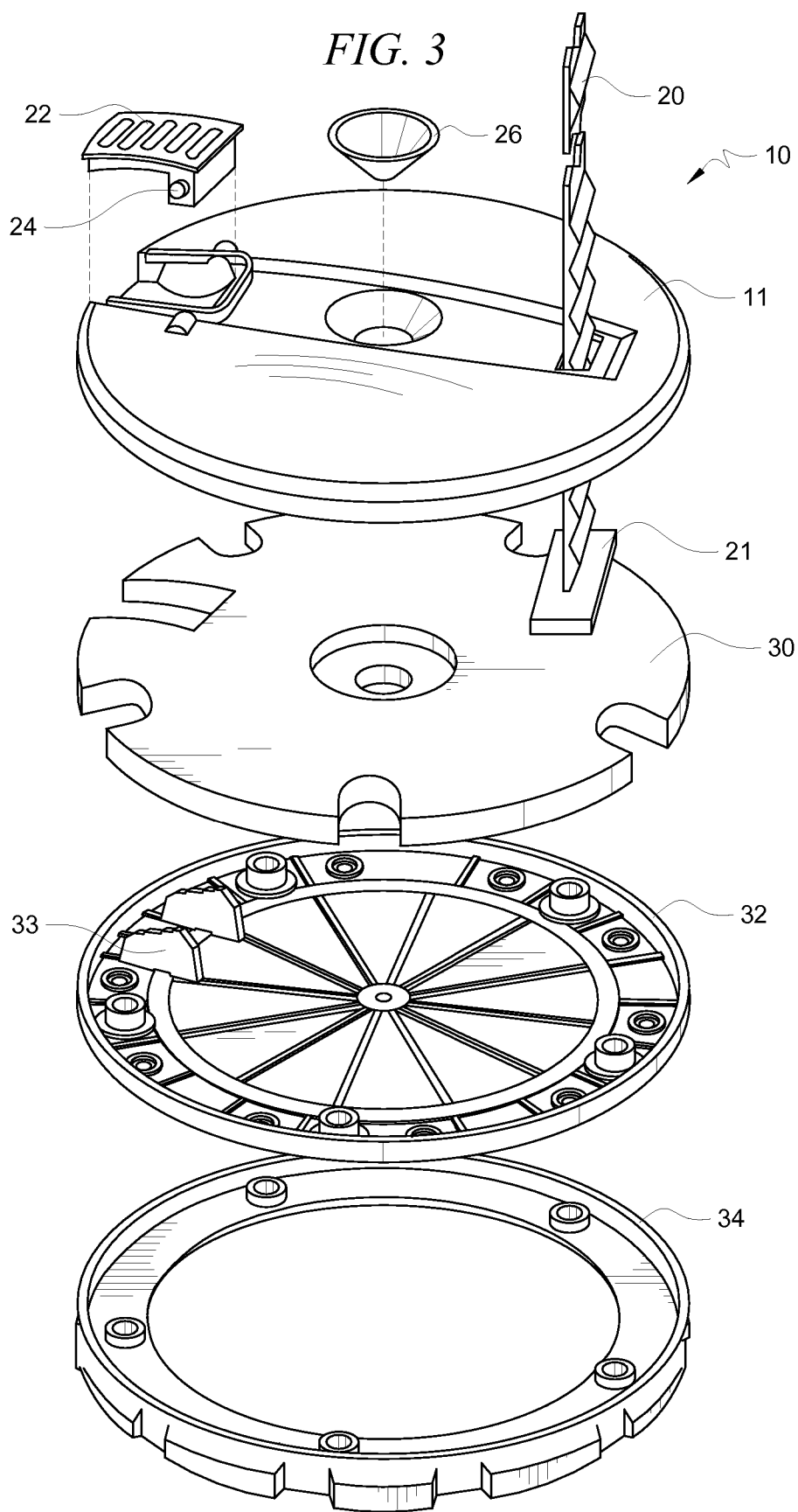
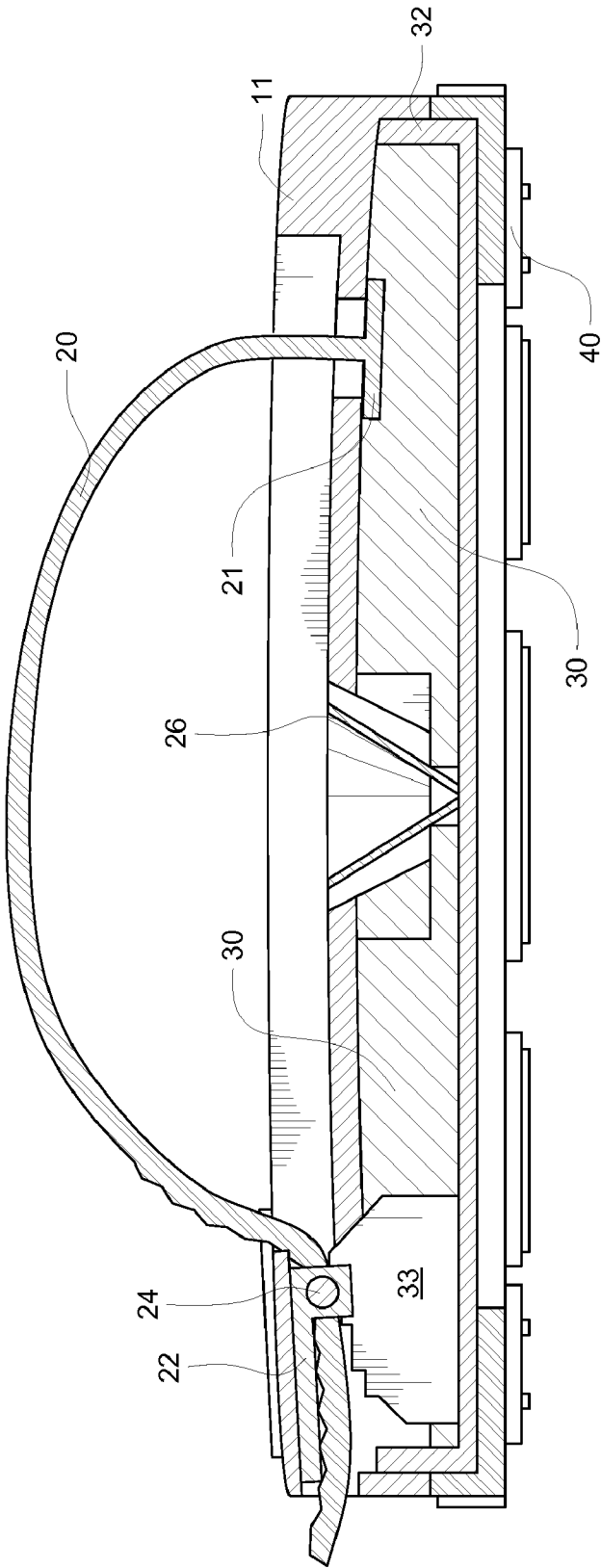


FIG. 4



APPARATUS FOR STABILIZING A TRIPOD

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. provisional patent application Ser. No. 60/804,782, filed Jun. 14, 2006, the disclosure of which is hereby incorporated by reference.

FIELD OF THE INVENTION

[0002] This invention relates to the field of tripods and, more particularly, to devices that attach to and stabilize a tripod.

BACKGROUND OF THE INVENTION

[0003] There are many uses for tripods including the support of telescopes, the support of surveying devices and the support of a camera while taking pictures. For example, amateur astronomers have telescopes that are supported by a tripod and surveyors use tripods to provide a steady, level field for surveying equipment. This is all well known in the arts. Basically tripods both hold steady and orient the device being held while manual motion or motor driven mechanisms assist in the positioning of the device.

[0004] A variety of sizes, types, and configurations of tripods currently exist as offered by the various manufacturers. For all applications, it is important that the tripod be steady so that surveyors can take accurate readings, stargazers can find the celestial body that they seek and photographs taken at night don't blur.

[0005] Tripods for use in surveying often have sharp tips on each shoe. The sharp tips help stabilize the tripod on many types of surfaces. On some surfaces, the tips dig in slightly while on other surfaces, the tips wedge into surface imperfections, thereby stabilizing the tripod and attached survey device. Such tripods are often used outdoors in a variety of weather. Being that the tripods are often lightweight for transportation purposes, such tripods often become unstable, especially in high winds. The aforementioned sharp tips add to the instability. When such a tripod tips over, the expensive surveying equipment mounted to it is often destroyed.

[0006] U.S. Pat. No. 6,651,944 to Coleman recognizes a problem similar to that stated above and provides a tripod stabilizer and lighted lens carousel. This patent does not teach an apparatus that will help keep a tripod from falling over.

[0007] U.S. Pat. No. 4,366,940 to Vargas recognizes this problem and provides longer pointed tips on each leg that dig further into the soil on which the tripod rests. Such tips do not work on solid surfaces such as concrete and, even on softer surfaces, have difficulty in mud, etc. Furthermore, depending upon how far down underground utilities and pipes (e.g., sprinkler systems) are placed, these tips are capable of piercing these utilities and pipes.

[0008] Accordingly there exists today a need for a tripod stabilizer that is removably affixed to the leg/shoe of a tripod and helps to overcome these difficulties.

SUMMARY OF THE INVENTION

[0009] In one embodiment, a tripod stabilizer for holding steady a leg of a tripod is disclosed including an enclosure that has a mass disposed within it and an orifice in a top surface of the enclosure for accepting the pointed tip of the

tripod leg. A strap for removably holding the tripod leg is attached at one end to the tripod stabilizer and a latch on the enclosure is adapted to accept a distal end of the strap for holding tight the tripod leg.

[0010] In another embodiment, a method of stabilizing a tripod, is disclosed. The tripod having tripod legs with pointed tips. The method includes providing three tripod stabilizers; one for each tripod leg. Each tripod stabilizer has an enclosure with a mass disposed within the enclosure and an orifice in a top surface for accepting the pointed tip of one of the tripod legs. A strap for removably holding the tripod leg has one end secured to the enclosure and there is a latch for securing and tightening the second end of the strap to the enclosure. The method continues with inserting the pointed tip of each of the tripod legs into the orifice of each respective tripod stabilizer, then passing the strap of the respective tripod stabilizers over an appendage of the respective tripod legs and passing the strap of the respective tripod stabilizer through the respective latch. To hold the tripod leg securely, the second end of the respective strap is pulled to tension the strap and securely hold the tripod stabilizers to the tripod leg.

[0011] In another embodiment, a tripod stabilizer for holding steady a leg of a tripod is disclosed including a mass and enclosure substantially surrounding the mass. The enclosure has an orifice for accepting the pointed tip of the leg of the tripod situated in its top surface. A strap for removably holding the leg of the tripod to the tripod stabilizer has a first end secured to the enclosure and a second end for releasably latching into a latching mechanism on the enclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The invention can be best understood by those having ordinary skill in the art by reference to the following detailed description when considered in conjunction with the accompanying drawings in which:

[0013] FIG. 1 illustrates a schematic view of a system of tripod stabilizers of the present invention in use with a tripod.

[0014] FIG. 2 illustrates a close-up schematic view of a tripod stabilizer of the present invention in use with a tripod leg.

[0015] FIG. 3 illustrates an exploded view of a tripod stabilizer of the present invention.

[0016] FIG. 4 illustrates a cross-sectional view of a tripod stabilizer of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0017] Reference will now be made in detail to the presently preferred embodiments of the invention, examples of which are illustrated in the accompanying drawings. Throughout the following detailed description, the same reference numerals refer to the same elements in all figures.

[0018] Referring to FIG. 1, a schematic view of a system of tripod stabilizers of the present invention in use with a tripod is shown. The tripod legs **50** are fit with tripod stabilizers **10** of the present invention. As can be seen, the tripod stabilizers have straps that wrap around an appendage or shoe of each tripod leg **50** so as the tripod is moved or positioned, the tripod stabilizers **10** remain affixed to the tripod legs **50**.

[0019] Referring to FIG. 2, a close-up schematic view of a tripod stabilizer of the present invention in use with a tripod leg is shown. The tripod stabilizer 10 has a strap 20 that passes over an appendage of the tripod shoe 52, thereby holding the tripod stabilizer 10 to the tripod leg 50. In this embodiment, the strap 20 is an elastomer strap with ridges or steps that passes through a catch 22, similar to how the strap of a snorkel mask operates. In other embodiments, the strap is any known strap mechanism including, but not limited to, straps tightened by buckles, buttons, snaps, hooks or Velcro. In the preferred embodiment, the strap is made from an elastomer such as a flexible, stretchable rubber. In alternate embodiments, the strap is made from a non-stretching material such as leather or non-stretchable rubber and is tightened over the tripod protrusion with buckles and the like. In other embodiments, the strap 22 is made from an elastomer and is affixed at both ends to the tripod stabilizer 10 and stretches to pass over the appendage of the tripod shoe 52, thereby holding the tripod shoe 52 by the elastic force of the elastomer strap 22.

[0020] Referring to FIG. 3, an exploded view of a tripod stabilizer of the present invention is shown. In the preferred embodiment, the tripod stabilizer 10 has a substantially conical cup 26 for accepting the pointed tip 52 of a tripod leg 50. The conical cup 26 is affixed to a cover 11. The tripod stabilizer includes an enclosure with a cover 11 and a bottom plate 32. The cover 11 and bottom plate 32 are made from any durable material such as plastic, wood or metal. In the preferred embodiment, the strap 20 has a stop 21 at one end to anchor the strap inside the cover 11. The strap extends out of the cover 11 and a second end of the strap threads back in under a latching device 22 which is pivotally attached to the cover 11 with nubs 24.

[0021] Beneath the cover is a mass 30 for providing weight to the tripod stabilizer 10. The mass 30 is sized and shaped to fit between the cover 11 and the bottom plate 32. In the preferred embodiment the mass 30 is made from iron, though in alternate embodiments, the mass 30 is made from any suitable, dense material such as concrete, steel, lead and sand. In some embodiments, the cover 11 and bottom plate are sealed and the mass 30 is water.

[0022] In some embodiments, the bottom plate 32 has ridges 33 that engage with the teeth of the strap 20.

[0023] In some embodiments, a rubber anti-slide plate 34 is affixed to the underside of the bottom plate to prevent the tripod stabilizer 10 from sliding on slick or wet surfaces.

[0024] Referring to FIG. 4, a cross-sectional view of a tripod stabilizer of the present invention is shown. In this view, the strap 20 is anchored by a stop 21 at one end and passes out of the cover 11 and then under the latching device 22. The strap 20 is tightened by pulling on the excess emanating from the latching device 22. To release the strap 20, the latching device 22 is pulled upward, pivoting on pivot 24, thereby allowing the strap 20 to be pulled out from beneath the latching device.

[0025] The optional conical cup 26 is preferably made from steel to prevent wear from insertion/removal of the tip of the tripod. In some embodiments, the rubber anti-slide plate 34 has rubber feet 40 to further prevent sliding on wet surfaces.

[0026] Equivalent elements can be substituted for the ones set forth above such that they perform in substantially the same manner in substantially the same way for achieving substantially the same result.

[0027] It is believed that the system and method of the present invention and many of its attendant advantages will be understood by the foregoing description. It is also believed that it will be apparent that various changes may be made in the form, construction and arrangement of the components thereof without departing from the scope and spirit of the invention or without sacrificing all of its material advantages. The form herein before described being merely exemplary and explanatory embodiment thereof. It is the intention of the following claims to encompass and include such changes.

What is claimed is:

1. A tripod stabilizer for holding steady a leg of a tripod, the tripod stabilizer comprising:

an enclosure;

a mass disposed within the enclosure;

an orifice in a top surface of the enclosure for accepting a pointed tip of the leg of the tripod; and

a strap for removably holding the leg of the tripod to the tripod stabilizer, at least one end of the strap secured to the enclosure.

2. The tripod stabilizer of claim 1, wherein the strap is made of an elastomer.

3. The tripod stabilizer of claim 2, wherein the strap includes ridges.

4. The tripod stabilizer of claim 1, the enclosure further comprising a latch for accepting and releasably securing a second end of the strap.

5. The tripod stabilizer of claim 1, further comprising an anti-slide plate affixed to a bottom outside surface of the enclosure.

6. The tripod stabilizer of claim 1, further comprising an insert of substantially conical shape for accepting the pointed tip of the leg of the tripod, the insert made from steel and the insert affixed within the orifice.

7. The tripod stabilizer of claim 1, wherein the mass is made from a material selected from iron, lead, sand and steel.

8. The tripod stabilizer of claim 1, wherein the strap is made from rubber.

9. A method of stabilizing a tripod, the tripod having tripod legs, the method comprising:

providing three tripod stabilizers, each tripod stabilizer comprising:

an enclosure;

a mass disposed within the enclosure;

an orifice in a top surface of the enclosure for accepting a pointed tip of one of the tripod legs;

a strap for removably holding the one of the tripod legs to the tripod stabilizer, one end of the strap secured to the enclosure;

a latch for securing and tightening a second end of the strap;

inserting the pointed tip of each of the tripod legs into the orifice of each of the tripod stabilizers;

passing the strap of each of the tripod stabilizers over an appendage of each of the tripod legs;

passing the strap of each of the tripod stabilizers through one of the latches; and

pulling the second end of the straps to securely hold the tripod stabilizers to the tripod legs.

10. The method of claim 9, wherein the strap is made of an elastomer.

11. The method of claim **10**, wherein the strap includes ridges.

12. The method of claim **9**, further comprising an anti-slide plate affixed to a bottom outside surface of the enclosure.

13. The method of claim **9**, further comprising an insert of substantially conical shape for accepting the pointed tip of the tripod leg, the insert made from steel and the insert affixed within the orifice.

14. The method of claim **9**, wherein the mass is made from a material selected from iron, lead, sand and steel.

15. The method of claim **9**, wherein the strap is made from rubber.

16. A tripod stabilizer for holding steady a leg of a tripod, the tripod stabilizer comprising:

a mass;

a means for enclosing the mass;

an means for accepting a pointed tip of the leg of the tripod, the means for accepting situated in a top surface of the means for enclosing;

a means for removably holding the leg of the tripod to the tripod stabilizer, a first end of the means for removably holding secured to the means for enclosing the mass; and

a means for releasably latching a second end of the means for removably holding.

17. The tripod stabilizer of claim **16**, wherein the means for removably holding is a strap made of an elastomer.

18. The tripod stabilizer of claim **16**, further comprising an anti-slide plate affixed to a bottom outside surface of the means for enclosing.

19. The tripod stabilizer of claim **16**, further comprising an insert of substantially conical shape, the insert made from steel and the insert affixed within the means for accepting the pointed tip of the leg of the tripod.

20. The tripod stabilizer of claim **16**, wherein the mass is made from a material selected from iron, lead, sand and steel.

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