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(54) **FINGER MOUNTED ROCK CLIMBING IMPLEMENT**

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(57) **ABSTRACT**

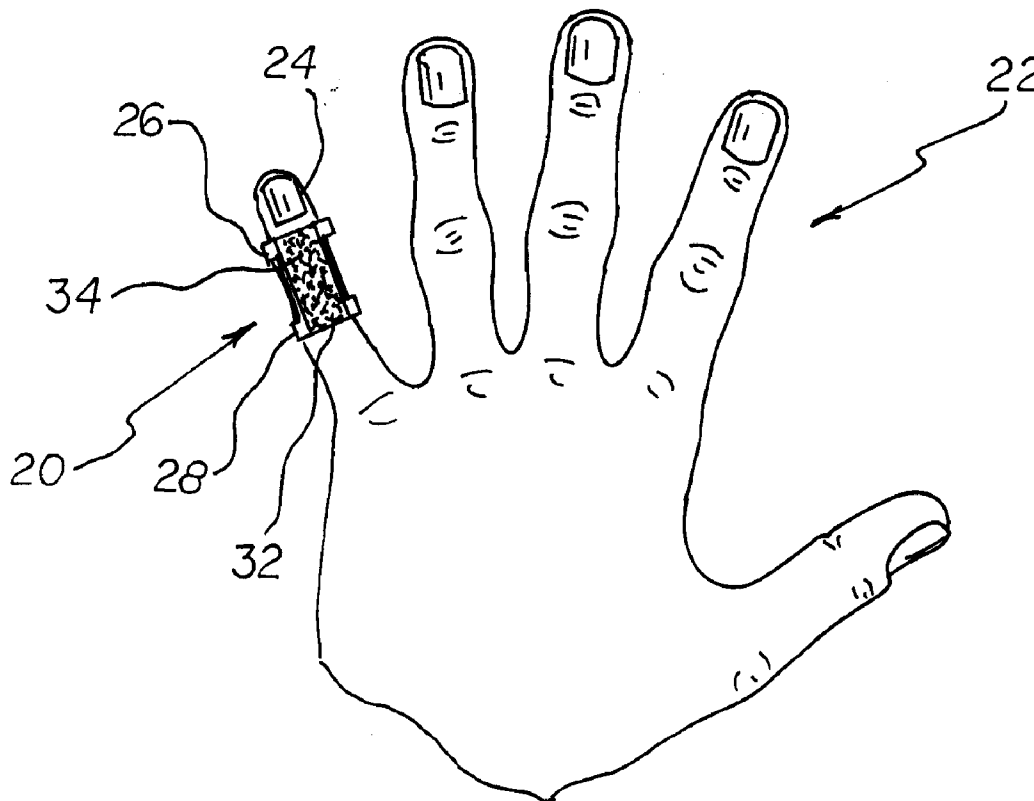
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Related U.S. Application Data

(60) Provisional application No. 60/802,199, filed on May 19, 2006.

Disclosed is a finger worn implement with a brush, or other cleaning implement, that allows rock climbers to easily clean accumulated chalk from the areas around rock climbing holds. The implement included a cot with attached upper and lower bands that are secured to the finger of a user. A wire brush or nylon bristles are secured to the cot and can be used to sweep out accumulations of chalk.



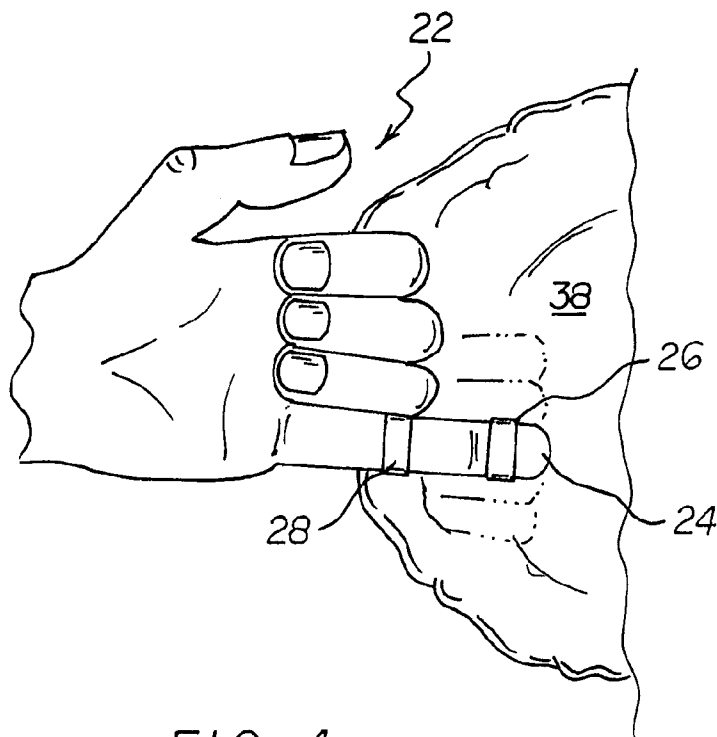
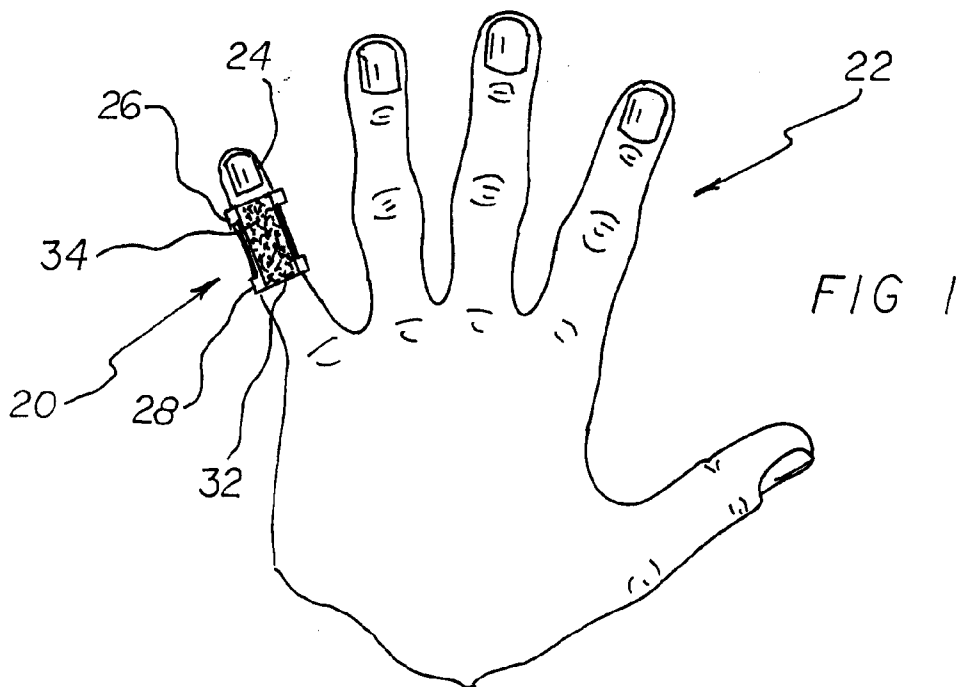


FIG 2

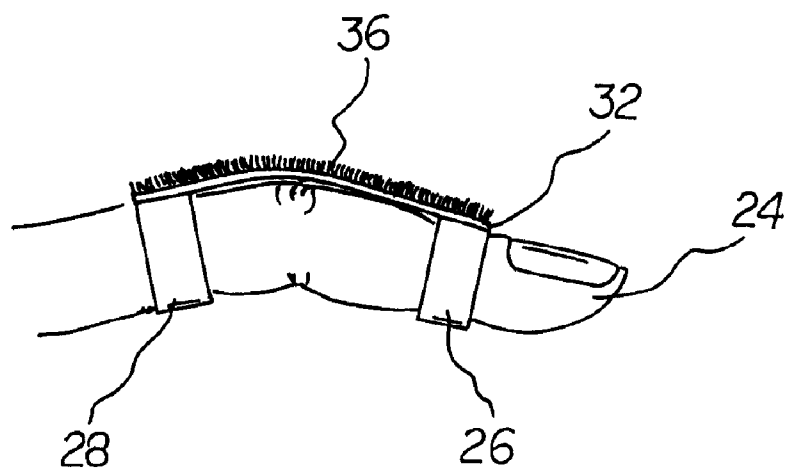
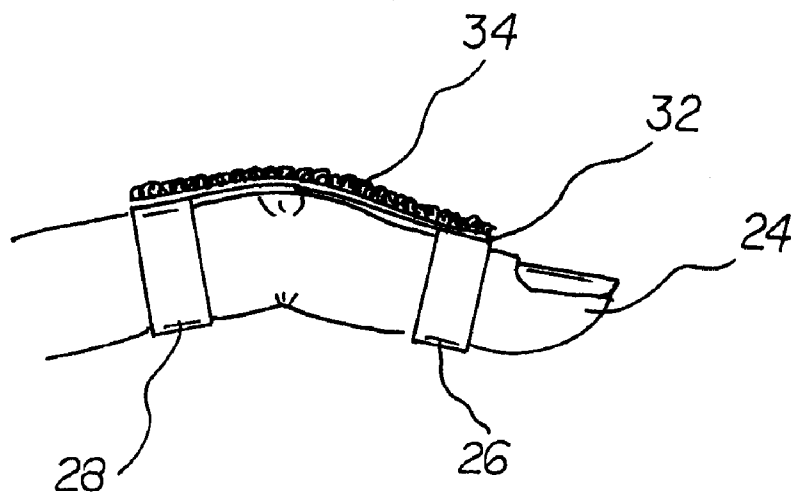


FIG 3

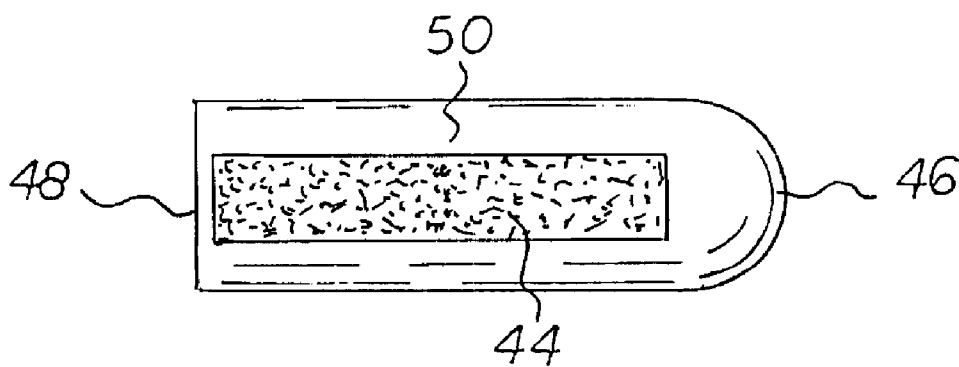
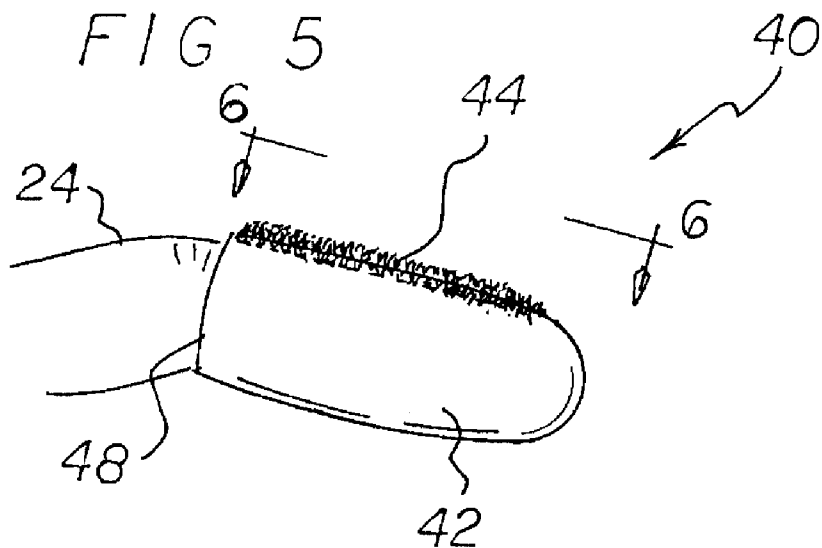


FIG 6

FINGER MOUNTED ROCK CLIMBING IMPLEMENT

RELATED APPLICATION DATA

[0001] This application claims priority to co-pending provisional application Ser. No. 60/802,199 filed May 19, 2006 and entitled Finger Mounted Rock Climbing Implement. The contents of this co-pending application are fully incorporated herein.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] This invention relates to a rock climbing implement.

[0004] More particularly, the present invention relates to a finger mounted implement that allows a wearer to clean chalk or debris from fissures or cracks during a climb.

[0005] 2. Description of the Background Art

[0006] Rock climbing is an increasingly popular sport. The sport is so popular, in fact, that indoor climbing facilities can now be found in most urban areas. The sport requires participants to ascend a rock face using minimal equipment in what is often referred to as a free climb. Under the Yosemite Decimal System, these types of climbs are classified as Class Five Climbs. Although participants can use ropes, carabineers, and belaying devices for safety, the climbing itself is accomplished solely with the climber's hands and feet. Namely, the climber ascends the rock face by grasping rock fissures or outcroppings, known in the sport as "features." The difficulty of Class Five Climbs, in turn, can be further classified on the basis of difficulty. This further classification is primarily a function of the number of features in the rock face, the spacing between the features, and how difficult they are to grip.

[0007] A climber's grip upon rock features can be greatly improved with the use of chalk. Chalk improves grip by both eliminating moisture and sweat from the hands and by promoting friction between the skin and rock. For this reason, climbers routinely carry a chalk bag, which can be secured to a waist belt. Periodically throughout the climb, a climber will apply chalk by placing their hands in the chalk bag.

[0008] However, one problem with chalk stems from the fact that climbers tend to follow established routes in order to ensure that sufficient features are present to ascend. Because these routes are repeatedly traversed, the chalk used by the climbers tends to build up within rock fissures and around outcroppings. This build up obscures the fissures and otherwise prevents subsequent climbers from getting a proper grip upon the rock face.

[0009] Consequently, climbers frequently carry a brush to sweep away chalk build up. Climbers store these brushes within their chalk bags. The brushes can also be directly mounted to a belt through the use of a carabineer. Regardless of how the brush is stored, using it during a climb can be extremely difficult. Using the brush requires the climber to remove a hand from the rock face, turn toward the location of the brush, grasp the brush handle (which may also involve unclipping the carabineer), and then turning back to the rock face in order to brush away the chalk. Once this is accom-

plished, the brush must then be returned before the climber can grasp the cleaned feature.

[0010] Under normal circumstances such a maneuver would not be of a concern. However, while rock climbing, where a climber may be hundreds of feet in the air and supported only by their hands and feet, the failure to perform this maneuver flawlessly can have dire consequences. Thus, there exists the need to enable rock climbers to clean rock features while at the same time maintaining a proper grip upon the rock face.

[0011] The background art contains examples of gloves that are especially adapted to improve a climber's grip. One such example is U.S. Pat. No. 5,079,776 to Crawford, which is entitled "Glove for Rock Climbing." Crawford discloses a glove that includes a pad formed from a climbing rubber and which is adapted to cover the back and peripheral palm portions of the hand. The construction leaves the finger tips exposed to improve touch. Although Crawford overcomes some of the problems associated with rock climbing, it is not concerned with removing the chalk build up, nor is it directed to a brush that can be employed with minimal body movement.

[0012] Finger mounted brushes are also known in the art. Examples of such brushes include U.S. Pat. No. 1,168,998 to Brandenburg; U.S. Pat. No. 4,679,274 to Friedman; and U.S. Pat. No. 2,167,129 to Sleeper. However, these brushes are specifically designed for cleaning a user's teeth and gums. Consequently, the bristles on these devices are uniquely adapted to be used within the mouth and are not suitable for use upon a rock face.

[0013] Finger mounted tools are also known in the art. Examples of such devices include U.S. Pat. No. 2,380,186 to Mayer; U.S. Pat. No. 2,151,846 to Greneker; and U.S. Pat. No. 6,584,637 to Witter. However, these devices are tailored for unique applications, such as applying grout or cleaning pots. None of these devices could be effectively employed during a rock climb.

[0014] Finally, it is also known in the art to provide a glove with one or more abrading units. For example, U.S. Pat. No. 4,038,787 to Bianchi discloses an abrasive glove with a number of abrading units. The glove can be used to abrade potatoes or to abrade paint. Likewise, U.S. Pat. No. 1,559,114 to Maranville discloses a rubber glove with clusters of projections that can be used to clean garments. Although these references achieve specific and unique objectives, they are designed to fit over the entire hand of a user. Because the finger tips are covered, these devices are not suitable for rock climbing where dexterity and touch are of critical importance. Moreover, the abrading nature of the gloves is not suitable for sweeping.

[0015] Thus, there continues to be a need in the art for a hand worn implement that can be used by rock climbers to sweep away chalk build up and/or other debris and which overcomes the aforementioned shortcomings present in the background art.

SUMMARY OF THE INVENTION

[0016] It is therefore an object of this invention to eliminate the need for a climber to reach for a tool before cleaning a rock feature.

[0017] It is another object of this invention to maximize climber safety by allowing a user to effectively and easily clean away chalk build ups occluding nearby fissures.

[0018] It is a further object of this invention to enable a brush to be worn on a user's finger, thereby allowing it to be easily used and conveniently carried.

[0019] It is still another object of this invention to enable a brush to be worn on the hand of a climber, while at the same time keeping the rest of the climber's hand free and unencumbered so as to maximize dexterity and touch.

[0020] It is also an object of this invention to increase the safety associated with the sport of rock climbing by allowing climbers to more effectively grip fissures or outcroppings, all the while maximizing the points of contact with the face of the rock wall.

[0021] The foregoing has outlined rather broadly the more pertinent and important features of the present invention in order that the detailed description of the invention that follows may be better understood so that the present contribution to the art can be more fully appreciated. Additional features of the invention will be described hereinafter which form the subject of the claims of the invention. It should be appreciated by those skilled in the art that the conception and the specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the invention as set forth in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0022] For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

[0023] FIG. 1 is view of a user's hand while wearing the implement of the present invention.

[0024] FIG. 2 is a side elevational view of a user wearing the implement of the present invention.

[0025] FIG. 3 is a side elevational view of a user wearing an alternative implement of the present invention.

[0026] FIG. 4 is a view of a user employing the implement upon a rock climbing feature.

[0027] FIG. 5 is an alternative embodiment of the implement of the present invention.

[0028] FIG. 6 is a top plan view of the alternative embodiment taken along line 6-6 of FIG. 5.

[0029] Similar reference characters refer to similar parts throughout the several views of the drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0030] The present invention relates to a finger mounted tool that allows rock climbers to remove accumulated climber's chalk from the areas in and around rock climbing holds. The finger mount eliminates the need for a user to reach for a belt mounted tool during a climb. The implement includes a cot with attached bands for securing the cot to a user's

finger. Steel wool or nylon bristles are secured on top of the cot and can be used to sweep out chalk accumulations. The various features of the present invention, and the manner in which they interrelate, are described in greater detail hereinafter in conjunction with FIGS. 1-6.

[0031] FIG. 1 illustrates the implement 20 mounted on the back of a user's hand 22. Although the particular embodiment illustrated shows implement 20 mounted on a user's pinky finger 24, the present invention can just as easily be worn on other fingers. Implement 20 is mounted to the back of the finger through the use of two straps 26 and 28. Again, however, even though implement 20 is shown on the back of the hand, it can also be positioned on the front of the user's finger, such that cot 32 overlies the finger tip. In the preferred embodiment, straps 26 and 28 are elastic and stretchable and can be expanded to fit over a wide variety of finger sizes. Implement 20 can also be made with straps of varying sizes to accommodate users with varying hand sizes. Additionally, via the elastic straps 26/28, a single implement 20 can easily fit on any finger of the user's hand. Regardless of where or how implement 20 is worn, straps 26/28 should be secure enough to prevent movement when the device is in use.

[0032] Straps can be, for example, adhesively secured to the underside of cot 32. In the preferred embodiment, cot 32 is rectangular in shape and is formed from a lightweight plastic material. The use of other materials and shapes is, of course, within the scope of the present invention. As illustrated in FIG. 1, cot 32 is long enough to extend over a majority of the length of the pinky finger 24. However, shorter cots can also be employed to ensure that the cot does not span a knuckle. This could also be achieved by placing cot 32 on a longer finger, such as the index or middle finger, at a position above the knuckle. This placement would ensure that the finger supporting cot 32 had a full range of motion. In one embodiment, the bottom surface of cot 32 can be lined with a moisture absorbing fabric. This would have the advantage of absorbing sweat from the surface of the user's finger.

[0033] In the embodiment of the invention depicted in FIGS. 1 and 2, cot 32 is used to support a grouping of steel wool 34. Those skilled in the art will appreciate a wide variety of ways in which steel wool 34 can be mounted to the underlying cot 32. For example, steel wool 34 can be fastened with a suitable adhesive or the wool can be embedded into the plastic cot 32.

[0034] An alternative embodiment of the present invention is illustrate in FIG. 3. In this embodiment, the steel wool 34 is replaced by bristles 36. Here, bristles 36 are mounted to cot 32 by embedding them into the surface of cot 32. The exact material used for bristles 36 will depend upon the intended application. For example, if implement 20 is for use indoors, such as on an artificial rock wall, bristles 36 can be formed from a stiff nylon. Otherwise, for outdoor applications, where implement 20 is used on a natural rock wall, bristles 36 will be formed from steel wire or copper. Either way, it is essential that heavy duty bristles are employed and that they are strong enough to withstand repeated brushing against hard surfaces. The bristles can extend upwardly from cot 32 anywhere between 1/16" to 1/8".

[0035] FIG. 4 illustrates implement 20 in use upon a rock climbing feature. Specifically, the implement 20 is mounted

via straps 26 and 28 to the pinky FIG. 24 of a user's hand 22. In the depicted use, implement 20 is mounted to the back side of the user's hand 22, thereby allowing the user to use the entire palm side of the hand as well as the finger tips to grip the rock surface during a climb. Thereafter, if the user encounters a feature that has been occluded with excessive chalk, he or she can easily use the back of the finger to brush away the chalk via the steel wool 34 or bristles 36. This is accomplished by presenting the back of the hand to the occluded fissure and placing the wool 34 or bristles 36 therein. The user then moves their hand back and forth to sweep away the chalk or other debris. The user is then free to immediately grip the cleaned, un-occluded feature. All of this can be accomplished without the need to retrieve a belt worn or stored tool or implement.

[0036] FIGS. 5 and 6 illustrate an alternative embodiment of the present invention that utilizes a latex finger cot 42 in place of straps 26 and 28. This latex sheath completely surrounds the finger 24 and extends over the finger tip a sufficient amount to prevent unintended removal. Although latex is the preferred material, cot 42 can be formed from any of a variety of elastic materials. Cot 42 is otherwise generally defined by a rearward opening 48, a closed forward end 46 and an intermediate extent 50 therebetween.

[0037] A strip of bristles 44 can be affixed to the top surface of cot 42 such that they extend upwardly from the back of the user's finger 24. The bristles can be adhesively secured or otherwise embedded into cot 42. As explained above in connection with the primary embodiment, these bristles can be used in sweeping away accumulations of climber's chalk, or other unwanted debris, from rock features. In the preferred embodiment, bristles 44 are formed from nylon. However, a grouping of steel wool can be used in place of bristles 44. Also, a textured surface (not shown) can alternatively be placed opposite bristles 44 to aid in giving the wearer a better grip on the rock surfaces. This textured surface would ideally be located overtop of the wear's finger tip.

[0038] The present disclosure includes that contained in the appended claims, as well as that of the foregoing description. Although this invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention.

[0039] Now that the invention has been described,

What is claimed is:

1. A system for permitting a climber to remove build ups during a rock climb comprising:

a rock face including fissures, outcroppings, and accumulated chalk within the fissures;

a rectangular cot formed from a lightweight plastic and having upper and lower surfaces;

a pair of elastic finger straps secured to the lower surface of the cot, the finger straps positioned over the finger of the climber;

steel wool adhesively secured to the upper surface of the cot, wherein the steel wool can be used by a climber to remove the accumulated chalk present within the fissure.

2. An implement for cleaning debris from a rock face comprising:

a finger cot secured to a user's finger;

bristles secured to the upper surface of the cot, the bristles being strong enough to be utilized in removing debris from the rock face.

3. The implement as described in claim 2 wherein two finger straps are included to secure the implement along a user's finger.

4. The implement as described in claim 2 wherein the cot is an elastic sheath that fits over the user's finger tip.

5. The implement as described in claim 2 wherein the implement is secured to the back of a user's finger.

6. The implement as described in claim 2 further including a layer of moisture absorbing fabric secured to the lower surface of the cot.

7. A method of permitting a climber to remove accumulated chalk from an occluded rock fissure during a climb, the method employing a tool including finger straps and bristles, the method comprising the following steps:

securing the straps over the finger of the climber such that the bristles of the tool are positioned on the back of the climber's finger, whereby the placement of the tool leaves the climber's fingers free for subsequent climbing;

positioning the tool over the occluded rock fissure during a climb such that the bristles of the tool are positioned within the rock fissure;

moving the hand in a side to side motion to dislodge the accumulated chalk from the fissure;

grasping the fissure once it is free of accumulated chalk.

8. The method as described in claim 7 wherein the bristles are formed from a nylon that is heavy enough to withstand repeated brushing against rock.

9. The method as described in claim 7 wherein steel wool is used in place of the bristles.

10. The method as described in claim 7 wherein the tool is worn on the user's pinky finger.

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