



Disclosure Document Middendorf

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VARIABLE-CONFIGURATION CLIMBING CHOCK

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References Cited

US Patent Document # 4,184,657 (Jardine 1/1980).
US Patent Document #4,422,607 (Vallance 12/1983).
US Patent Document #4,572,464 (Phillips 2/1986).

ABSTRACT

An artificial chockstone used by rock climbers to provide a protection point. The chock comprises three parts: a center spherical member and two outer members each with an angled groove (i.e. "grooved wedges"). The unit is adjustable between a small dimension (the compressed state) and a large dimension (the extended state) upon relative sliding of the center member. The unit is placed in a crevice in the compressed state, and is allowed to expand so that the outer sides of the grooved wedges are in contact with the two surfaces of the crevice. As the center member is loaded, the chockstone becomes a secure protection point to which a safety line may be secured.

BACKGROUND AND SUMMARY OF THE INVENTION

The invention of the present application pertains to rock climbing aids. Specifically, the instant invention pertains to an artificial chockstone which a climber may use to provide a point of protection which is intended to be anchored in a narrow crevice.

Artificial chockstones in the known prior art consist of one-part *simple* wedge designs, which are placed in V-type constrictions in a crevice, and two-part expandable designs, in which one member of the device slides against the surface of one side of the crevice.

Other types of artificial chockstones utilize camming action in which rotatable cams, mounted on a rigid body, expand against the surfaces of a crevice to provide a secure point of protection. An artificial chockstone of this type is best suited for larger crevices.

Known prior artificial chockstones are not suitable for placement in a narrow crevice which flares (that is, crevices which are not perfectly parallel), or for placement in a crevice in which a sliding member in contact with one surface of the crevice would possibly compromise the security of the placement.

The object of the invention, therefore, is to provide an artificial chockstone which will provide security in both parallel and non-parallel crevices which also has no surfaces which require sliding against one of the surfaces of the crevice for security.

Another object of the invention is to provide an artificial chockstone which may be easily inserted and removed with a one-handed plunger-type operation.

Still another object of the invention is to provide an artificial chockstone

which is lightweight, strong, and of simple construction.

The climbing chockstone of the instant invention includes a center member and two outer members which are spring biased to an expanded position. The center member is spherical and is connected to a loop to which a carabiner and rope can be connected to secure the climber to a rock face. The two outer members each contain an angled groove in which the center spherical member slides. The chockstone is configured that should the climber fall, the additional weight and forces generated by the falling climber on the safety line attached to the climbing chock cooperates with the biasing mechanism of the climbing chock to further urge the outer members to expand to the larger configuration, thereby providing an increased force against the surfaces of the crevice, and proportionally increasing the gripping ability of the outer members of the chockstone in the crevice.

The instant invention features a flexible cable body which is generally capable of conforming to a curved interior or edge of a crevice, and a spring loaded triggering mechanism for simple placement and removal.

BREIF DESCRIPTION OF THE DRAWINGS

Figure 1 is an overall view of the instant invention.

Figure 2 shows an exploded view of the 3-part design.

Figure 3 shows a placement in a crevice which flares outward.

Figure 4 shows a climber placing the invention, and one in place.

CLAIMS

1. A variable configuration climbing chock for providing a protection point for a rock climber comprising of a center member with means of attachment, and two outer members which contact the surfaces of a crevice.
2. The climbing chock of claim 1, in which the center member is connected to a main body of flexible cable, and in which the two outer members are connected to a spring-loaded triggering mechanism which biases the chock to its expanded position.
3. The climbing chock of claim 2, in which the center member is spherical.
4. The climbing chock of claim 3, in which each of the outer members contain a groove which is angled in respect to the outer surface of the member and in which the center member slides.
5. The climbing chock of claim 1, in which the center member acts as a wedge, and the two outer members are of any configuration.
(Basically, any three-part chock design with means of triggering and attachment in which the center member is loaded and the two outer members remain stationary in respect to the sides of the crevice).

The undersigned, being the original inventor of the disclosed invention, requests that the enclosed papers be accepted under the Disclosure Document Program, and that they be preserved for two years.

signed,

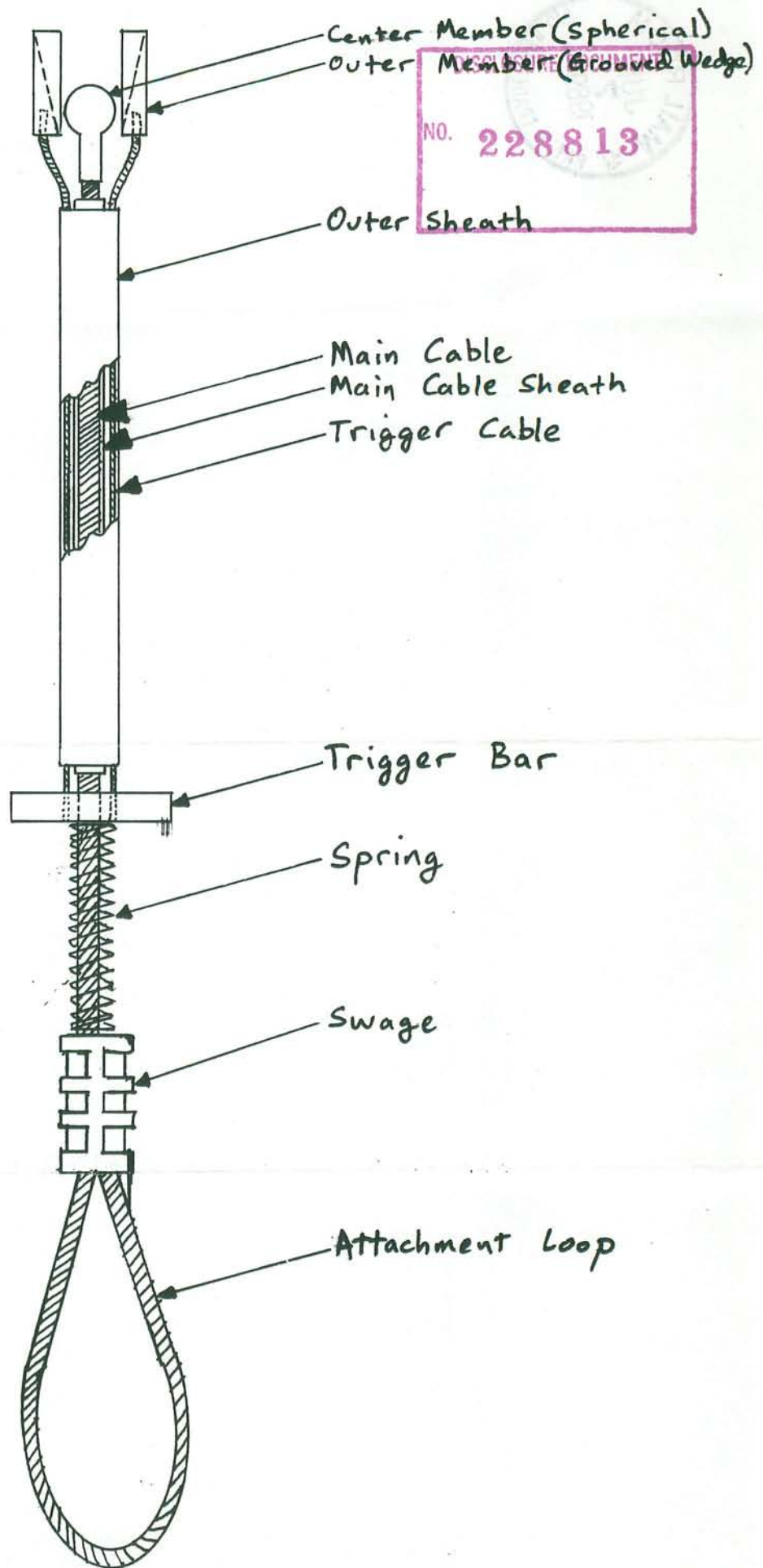
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A5 Monkey Paw

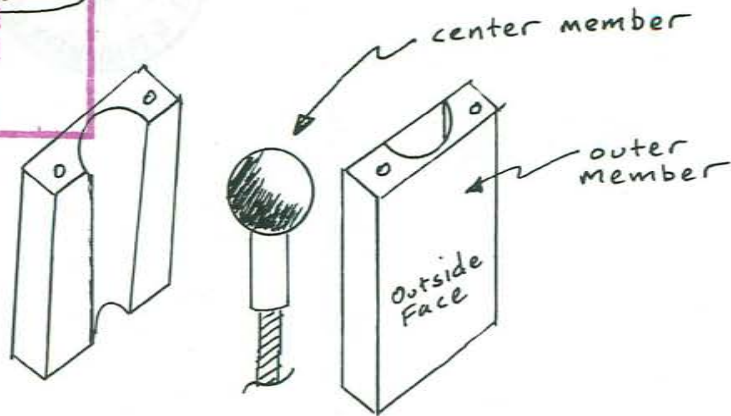
Drawing Page 1 of 2

Figure 1



A5 Monkey Paw
Drawing Page 2 of 2

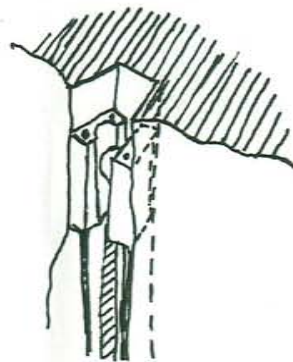
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Figure 2



Exploded View of the Top Part

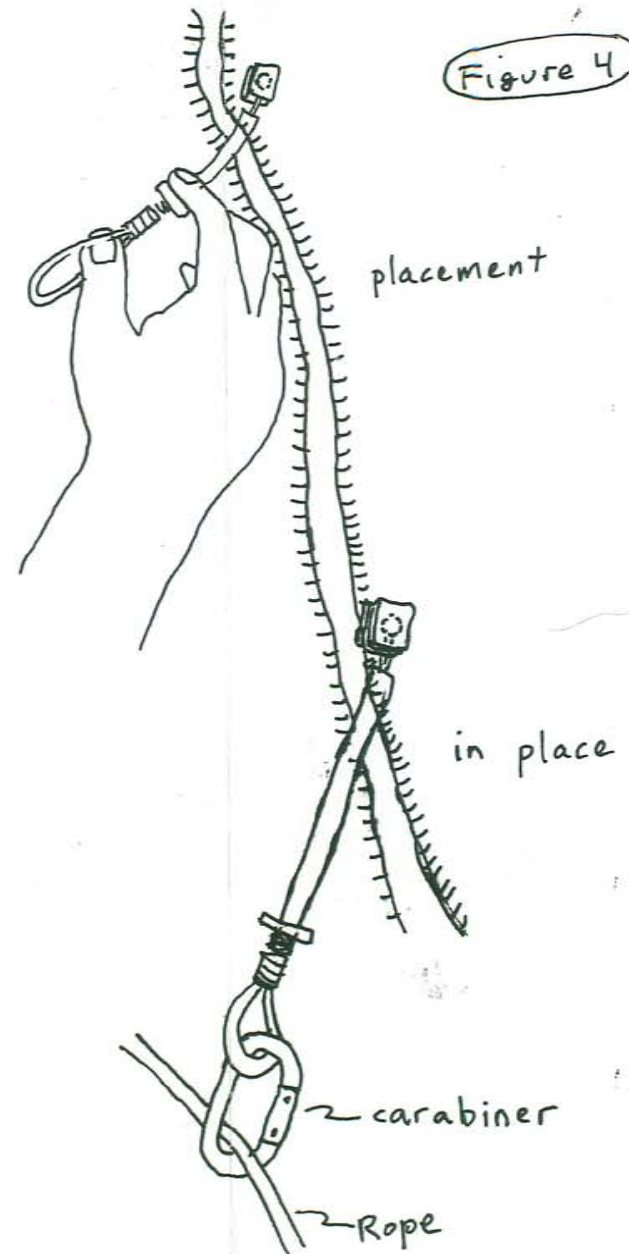
Note: Grooves in outer members are angled with respect to outside face.

Figure 3



Placement in Flare

Figure 4



APPLICATION

of

JOHN W. MIDDENDORF IV

for

APPARATUS AND METHOD FOR A VARIABLE

CONFIGURATION CLIMBING CHOCK AND THE LIKE

APPARATUS AND METHOD FOR A VARIABLE
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BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to apparatus used in the climbing of mountains and, more particularly, to the artificial chockstones, generally known as chocks, that are used to engage small crevices and fissures in the rock being scaled.

2. Description of the Related Art

In the related art, much attention has been devoted to providing satisfactory climbing chocks because the life of the climber can literally depend on the effective functioning of the chock.

Originally, chocks were wedge shaped and a climber would carry an assortment of sizes. However, because of the difficulty matching a chock to a particular crack geometry, the chock would frequently be in contact with the surface of the crack at only two points. The following patents describe chocks that have a more sophisticated geometry in order to provide better contact with the rock fissures into which the chokes are inserted.

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A hammer-in device is described in U.S. Patent 3,467,351 entitled "Anchoring Device", issued on September 16, 1969, and invented by W.A. Feuerer, describes a device for use by a climber in small cracks or fissures.

A group of patents describe simple wedge devices. U.S. Patent 3,946,975 entitled "Climber's Chockstone", issued on March 30, 1976, and invented by T.G. Lyman, Jr., describes a chock having three pairs of opposed faces in order to provide a better match for the walls of a crevice or crack. The chock has a cavity with a metal tube thereacross for securing a loop. U.S. Patent 3,948,485, entitled "Irregular, Polygonal Mountaineering Chock", issued on April 6, 1976, and invented by Y. Chouinard et al, describes a polygon configuration in which the walls of the polygon have unsymmetric faces. By rotating the polygon chock, an orientation can be found that maximizes contact with the walls of the crack. U.S. Patent 3,957,237 entitled "Chocks", issued on May 18, 1976, and invented by G.K. Campbell, describes a rigid body with recessed portions on working surfaces and apparatus for securing a runner to the chock. U.S. Patent 4,044,976 entitled "Chocks", issued on August 30, 1977, and invented by G.K. Campbell,

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describes an elongated and generally triangular chock with a loop passing through the middle of the chock, the loop being held in place by an appropriately shaped member engaging the loop and the aperture in the chock through which the loop passes. A loop sling is threaded through apertures in the chock. U.S. Patent 4,074,880 entitled "Climbing Wedge", issued February 21, 1978, and invented by L. Simond, describes a wedge of chock in the form of a hollow prism with a plurality of faces of different dimensions can be used with fissures having a variety of dimensions. The wedges can be inserted, one in another, for added flexibility. U.S. Patent 4,082,241 entitled "Chock for Mountain Climbing", issued on April 4, 1978, and invented by J.B. Burkey, describes a chock in the form of a truncated pyramid having sides of unequal length to conform to a variety of crevice geometries. U.S. Patent 4,083,521 entitled "Anchoring Device for Climbing Ropes", issued April 11, 1978, and invented by J.N. Greiner, II, describes a device having three equiangularly spaced arms with a trapezoid side elevation. Apertures are formed in the chock to accommodate a loop. U.S. Patent 4,422,607, entitled "Climbing Chocks", issued on December 27, 1983, and invented by M. Vallance, a

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modified wedge shaped geometry is described that results in an increased area of the chock being in contact with the walls of the crack.

Another group of patents involves camming devices. U.S. Patent 3,877,679 entitled "Anchor Device for Mountain Climbers", issued April 15, 1975, and invented by G.E. Lowe, describes a cam system in which a pair of perpendicular wedges, arrangeable cracks in rocks and the like are provided by opposed pairs of tapered walls. U.S. Patent 4,069,991, entitled "Chock for Rock Climbing", issued on January 24, 1978, and invented by T.C. Saunders et al, describes a chock with a generally tubular and triangular cross section, and having an outwardly arched face with longitudinally teeth. U.S. Patent 4,184,657 entitled "Climbing Aids", issued January 22, 1980, and invented by R.D. Jardine describes a cam system in which two pairs of cam members are spring loaded into a open position. Applying tension against the spring loading rotates each cam pair in an opposite direction, ultimately forming a closed configuration, for insertion in a crevice. The spring loading will cause the cam pairs to engage opposite cam surfaces and a external force applied to the cam system causes the cam pairs to engage the

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crevice walls more securely. U.S. Patent 4,565,342 entitled "Anchoring Device for Rock Climbing", issued January 21, 1986, and invented by R.D. Grow, describes a plurality of spring loaded cams. The cams of the chock engage the surfaces of the crevice and secure the chock in the crevice. U.S. Patent 4,575,032 entitled "Rock Climbing Adjustable Chock", issued March 11, 1986, and invented by P.C. Taylor, describes the use of three spring loaded cams that can be retracted, inserted into a crevice and the spring loading resulting in coupling the chock to the walls of the crevice.

Other related patents are the following. U.S. Patent 4,491,291 entitled "Climbing Aid for Mountain Climbers", issued January 1, 1985, and invented by P.W. Ching, describes a chock in which a load bearing member is coupled to the two surfaces by coupling members, a force on the load bearing member causing the two surfaces to exert increased pressure on the crevice walls. U.S. Patent 4,586,686 entitled "Spring Activated Cam Anchor", issued on May 6, 1986, and invented by D.A. Cason, describes a chock in which legs can be controllably extended (to engage crevice walls) or withdrawn to permit removal of the chock.

More closely related to the chock described

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herein is U.S. Patent 3,903,785 entitled "Rock Climbing Anchor", issued September 9, 1975, and invented by W. Pepper, Jr., describes an arrangement in which two members, having surfaces adapted to engage the opposite walls of a crack are constrained to move in one direction, the amount of the movement resulting from a wedge shaped element forcing the two members apart under the force of the load. This chock configuration suffers from the lack of orientability of the two members engaging the surfaces of the crevice. This lack of orientability can compromise the strength of the coupling to the surfaces by means of the coefficient of friction by reducing the contact area. U.S. Patent 4,572,464 entitled "Change-Configuration Climbing Chock", issued February 25, 1986, and invented by D.D. Phillips, describes a chock in which two wedge shaped members have intersurfaces slidably coupled and outer surfaces for engaging the walls of a crevice. The distances between the outer surfaces are determined by the relative position of the two wedge shaped members. This relative position is determined by the force applied to one of the two wedge shaped members. This configuration does not have the capability of orienting the outer surfaces. In addition, when the

ABSTRACT OF THE DISCLOSURE

A chock, for use in engaging cracks and crevices in rock includes a three piece unit for engaging the walls of the rock fissure. Two outer members have tapered grooves on interior surfaces and a spherical inner member is constrained to move in the grooves. The taper of the grooves, the position of the spherical member determines the separation of the two outer members, the outer surfaces of the two outer members engaging the sides of the crack or crevice. The outer members are spring loaded with respect to the spherical member, the equilibrium position being that of maximum separation of the two outer members. When an operator applies a force to the chock, the spherical member is moved and the separation of the outer members decreased. The chock can be inserted in the crevice, the operator force removed, and the outer members will increase in separation until the walls of the crevice are engaged. The use of the tapered grooves in the outer member and the spherical inner member flexibility in the relative orientation of the surfaces of the outer members engaging the crevice walls. As the load on the chock is increased, the force applied to the walls is increased.

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force is increased and one of the wedge shaped members moves relative to the second wedge shaped member, motion will also be experienced by one of the members relative to the crevice surface potentially weakening the friction force therebetween.

A need has therefore been felt for a relatively simple climbing chock that is relatively light, relatively simple to operate, and which can engage securely walls of a crack or crevice, the walls of the crevice having a wide range of relative orientations.

FEATURES OF THE INVENTION

It is an object of the present invention to provide improved apparatus to assist in the climbing of mountains.

It is a feature of the present invention to provide an improved chock for being secured in a crack or crevice of a rock.

It is another feature of the present invention to provide a chock capable of engaging the walls of cracks and crevices having a range of relative orientations.

It is yet another feature of the present invention to provide a chock in which the walls of a crack or crevice is engaged by an assembly having

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three elements.

It is a still further feature of the present invention to provide a chock in which the walls of a crack or crevice are engaged by an assembly having three pieces, two outer members having an outer surface for engaging the walls and a third member for controlling the separation of the two outer members.

It is yet another feature of the present invention to provide a climbing chock in which a load attached to the chock increases the force exerted on the walls.

SUMMARY OF THE INVENTION

The aforementioned and other features are obtained, according to the present invention, by providing two outer members having a tapered groove formed on the inner surfaces thereof and a spherical inner member, for which the position in the tapered grooves determines the separation of the two outer members. A spring loaded mechanism controls the separation of the two outer members by controlling the position of the spherical member in the groove. The equilibrium position of the outer members and the spherical member provides the maximum separation of the outer members. By applying a force overcoming the force of the spring, the separation between the

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outer members can be narrowed and the chock inserted in a crevice or crack. When the force is removed, the tension of the spring will cause the outer members to engage the walls of the crack or crevice. Application of a load to the chock will increase the force applied to the crack or crevice. The outer members can engage surfaces having a range of relative orientations.

These and other features of the invention will be understood upon reading of the following description along with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a profile and partially cutaway view of the variable configuration climbing chock according to one embodiment of the present invention.

Figure 1A is a cross sectional view of the conduit between the trigger bar and the unit engaging the walls of the crevice.

Figure 2 is a perspective exploded view of the portion of the chock which engages the rock channel.

Figure 3 is a perspective view of a second embodiment of the variable configuration climbing chock of the present invention.

Figure 4 illustrates how the climbing chock of the present invention engages a crack or crevice.

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Figure 5 illustrates how the variable configuration climbing chock of the present invention is inserted in a crack or crevice.

Figure 6 illustrates the manner in which a climbing chock is typically used.

DESCRIPTION OF THE PREFERRED EMBODIMENT

1. Detailed Description of the Figures

Referring first to Fig. 1, a first embodiment of the variable configuration climbing chock according to the present invention is shown. The chock 10 includes two outer members 12 having the shape of a grooved wedge and an inner member 11 in the shape of a sphere. As will be described in more detail below, the spherical inner member will move within the grooves. The spherical inner member 11 is coupled to a main cable 14, the main cable extending through the length of an outer sheath, through an aperture in the trigger bar 9, and finally through a swage 18, the end of the main cable 13 being also coupled to swage 18 to form loop 19. A spring 17 maintains the swage 18 a predetermined distance from the trigger bar 9 in the absence of an external force. At least one trigger cable 16, located within the outer sheath 13, maintains each outer member 12 a predetermined distance from the trigger bar 9. A main cable sheath

-11-

15 separates the main cable 14 from the remainder of the components enclosed by the outer sheath 13 and permits the main cable to move relatively freely in relation to the outer sheath and the other components. By narrowing the distance between the swage 18 and the trigger bar 9, the position of the spherical inner member 11, relative to the two outer members, can be controlled.

Referring to Fig. 1A, the conduit coupling the trigger bar 9 with the inner member 11 and the outer members 12 is shown. The outer sheath 13 encloses the remainder of the conduit structure. An inner sheath 15 separates the main cable 14 from the trigger cables 16 and permits relative motion therebetween.

Referring to Fig. 2, an exploded view of the inner member 11 and the outer members 12 is shown. Each outer member has a tapered groove 22 on the inner surface thereof. The spherical inner member 11 engages the two tapered slots of the outer members at substantially the same position along the tapered grooves 22. The position of the spherical inner member 11 along the tapered grooves determines the distance between the outer surfaces 21 of the outer members 12 and, therefore, the distance between the

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outer surfaces 21 can be controlled by controlling the position of the spherical inner member.

Referring to Fig. 3, a second embodiment of the chock according to the present invention is shown. The principal difference is that the main cable 14 is replaced by generally planar member 31. The spherical inner member 11 of the embodiment shown in Fig. 1 and Fig. 2 is replaced by hemispherical members 32 on either side of the planar member 31. A loop 19 is coupled through an aperture in the end portion of the planar member 31. A spring 17 establishes a predetermined relationship between the trigger bar 9 and the planar member 31. Trigger cables 16 establish a predetermined spatial relationship between the trigger bar 9 and the outer members 12. The planar member can have sheaths coupled thereto into which the trigger cables 16 are inserted. The planar member can then move relative to the trigger cables without resulting in relative displacement between the trigger bar 9 and the outer members.

Referring to Fig. 4, the mechanism by which the climbing chock of the present invention engages the walls of a crack or crevice of a rock formation 40 is shown. The outer surfaces 21 of outer members 12 are

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in contact with the walls of the crack or crevice. The spring 17 pulls the spherical inner member 11 into a portion of the grooves having a lesser amount of displacement from the inner surfaces of the inner members. The force of the spring 17 therefore provides a force to increase the relative displacement of the outer members 12. Because the outer surfaces 21 are outer members that already engage the crack (or crevice) walls 41, the increased force will increase the force of contact with the walls. Although not shown, when a load is placed on the loop 19, the force exerted by the outer surfaces of the outer members will increase, thereby increasing the stability of the coupling between the chock and the crack in the rock.

Referring to Fig. 5, the technique for attaching the chock of the present invention to a crack or crevice 49 in a rock 40 is shown. The operator 50 applies a force of compression between the trigger bar 9 and the loop 19. The spherical inner member 11 is moved upward relative to the (tapered grooves in the) outer members 12. Because the motion of the inner member 11 is into a deeper portion of the grooves, the outer members will move closer together, permitting insertion into a smaller crack than would

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possible when no compressive force is applied. When the compressive force is removed, then the spherical inner member, under the force of the spring 17 will attempt to return the spherical inner member to the shallowest portion of the tapered grooves, thereby permitting the outer members to return to the equilibrium position in the absence of crevice walls narrower than the equilibrium separation of the outer surfaces 21 of the outer members.

Referring to Fig. 6, the actual use of the chock of the present invention is illustrated. Once the chock engages the walls of crack 49, a carabiner 56 is typically coupled to the loop 19 and a load rope 57 is inserted in the carabiner 56. Because of the dimensions of the crack 49, compression of the spring will be present. The presence of the load will increase the force exerted by the outer surfaces on the walls of the crack (or crevice) 49.

2. Operation of the Preferred Embodiment

Referring once again to Fig. 1, Fig. 2, and Fig. 3, the relative position of the spherical inner member or the spherical member 32 in the tapered grooves 22 of the outer members 12 determines the distance between the outer surfaces 21 of the outer members 12. Therefore, when a compressive force

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between the trigger bar and the loop is released, the distance between the outer surfaces 21 will increase until the equilibrium position is achieved or the outer surfaces engage crack walls. Any load applied to the loop of the chock will further secure the outer members to the crack walls.

The second embodiment using the planar member is particularly useful for small chocks therein the main cable has become so small that the requisite load can not be borne by the main cable, i.e., the main cable has become the weakest member.

The present invention has an important feature, the lack of constraint with respect to the relative orientation of the outer surfaces 21. Thus, the chock of the present invention is able to engage walls having diverse relative orientations.

The present invention has been described using a spherical member controlling a separation of the two outer members. It will be clear to those skilled in the art that other configurations are possible. For example, the spherical member can be replaced by a cone shaped member when the outer members and the grooves have an appropriate shape. In this embodiment, the range of relative orientations of the outer member surfaces would be restricted compared to

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the range relative orientations of the outer member surfaces in the embodiment using a spherical member. It will be further clear to those skilled in the art that another embodiment of the present invention can have the spherical member fixed with respect to a structural element of the climbing chock and the outer elements having a controllable distance (i.e., at least partially through force of a spring) with respect to the structural element.

The foregoing description is included to illustrate the operation of the preferred embodiment and is not meant to limit the scope of the invention. The scope of the invention is to be limited only by the following claims. From the foregoing description, many variations will be apparent to those skilled in the art that would yet be encompassed by the spirit and scope of the invention.

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What is claimed is:

1. A climbing chock for use in attaching a load to a crack or crevice in a rock, said chock comprising:

a first and a second generally planar members, each generally planar member having a tapered groove fabricated therein;

a spherical member constrained to move in said grooves of said first and said second member, wherein a position of said spherical member in said grooves determines a separation of said first and said second planar members; and

a spring mechanism for positioning said spherical member to maintain a maximum separation between said planar members, said spring mechanism constructed so that operator can apply a force opposite to that of said spring, said opposite force resulting in a narrowing of the separation between said planar members.

2. The climbing chock of Claim 1 wherein said spring mechanism is configured to increase a separation between said planar members when a load is applied to

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said chock.

3. The climbing chock of Claim 1 wherein said first and said second planar members have a range of relative orientations.

4. The climbing chock of Claim 1 wherein said spring mechanism includes a trigger bar, said trigger bar coupled to each of said first and said second planar members by a flexible structure for maintaining a generally constant distance between said trigger bar and said first and second planar members, said spring mechanism further including cable and a spring, said spring coupled to said trigger bar and said cable, said cable coupled to said spherical member, said spring and said cable controlling position of said spherical member relative to said first and said second spherical members.

5. The climbing chock of Claim 4 further including a conduit for said cable and said flexible structures, said conduit permitting relative movement of said flexible structures and said cable.

6. The climbing chock of Claim 4 wherein a tension

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force applied to said cable causes said said first and said second planar members to exert a greater force on walls of said crack or crevice in which said chock is engaged.

7. A climbing chock for securing a load to a crack or crevice, said chock comprising:

an elongated member;

a spherical member coupled to a first end of said elongated member;

a bar member having an aperture therethrough, said elongated central member passing through said aperture;

a blocking member connected to a second end of said elongated member;

a spring coupled between said bar member and said blocking member; and

a first planar member and a second planar member connected to said bar member and being a fixed distance from said bar member, said first and said second planar members having a tapered groove therein for engaging said spherical member, wherein a position of said spherical member in said grooves determines a separation of said planar members, wherein said spring positions of said spherical

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member for substantially maximum separation of said planar members in an absence of an external force, wherein an external force on said spring causes a separation between said first and said second members to decrease.

8. The chock of Claim 7 wherein said first and said second planar members have a range of relative spatial orientations for a position of said spherical ball in said tapered grooves.

9. The chock of Claim 7 wherein an external force of said bar member causes a force to be exerted for increasing a separation of said first and said second planar members.

10. The chock of Claim 7 wherein said first and said second member are connected to said bar member by a flexible structure, said chock further comprising a conduit for said flexible structures and said planar member.

11. A climbing chock for engaging the walls of a crack or crevice, said chock comprising:

a first member and a second member, said first

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member having a surface for engaging a first of said walls, said second planar member for engaging a second of said walls, said first member surface and said second member surface having a range of relative orientations;

a control element for contacting said first and said second members, a location of said control element relative to said first member and said second member controlling a separation between first and said second member; and

a spring member coupled to said first and said second members and to said control element, said spring member controlling said relative location in an absence of external to provide a maximum separation between said first and said second members, an external force applied to said spring member decreasing separation between said first and said second members.

12. The chock of Claim 11 wherein said spring member includes:

a bar coupled to said first and to said second members for maintaining a generally constant distance between said bar and said first and second members; and

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a spring coupled between said bar and said control element, wherein said control element includes a spherical member and said first and said second members each include a tapered groove for receiving said spherical element, an external force applied to said spring reducing a separation between said first and said second members.

13. The chock of Claim 12 wherein an external force applied to said control element increases a force exerted on said walls.

14. The chock of Claim 13 wherein said first member and said second member are each coupled to said bar with at least one wire.

15. The chock of Claim 14 wherein said control element further includes a cable coupling said spherical member and said spring.

16. The chock of Claim 14 wherein said control element further includes a planar member coupling said spherical element and said spring.

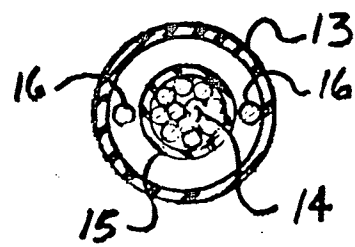
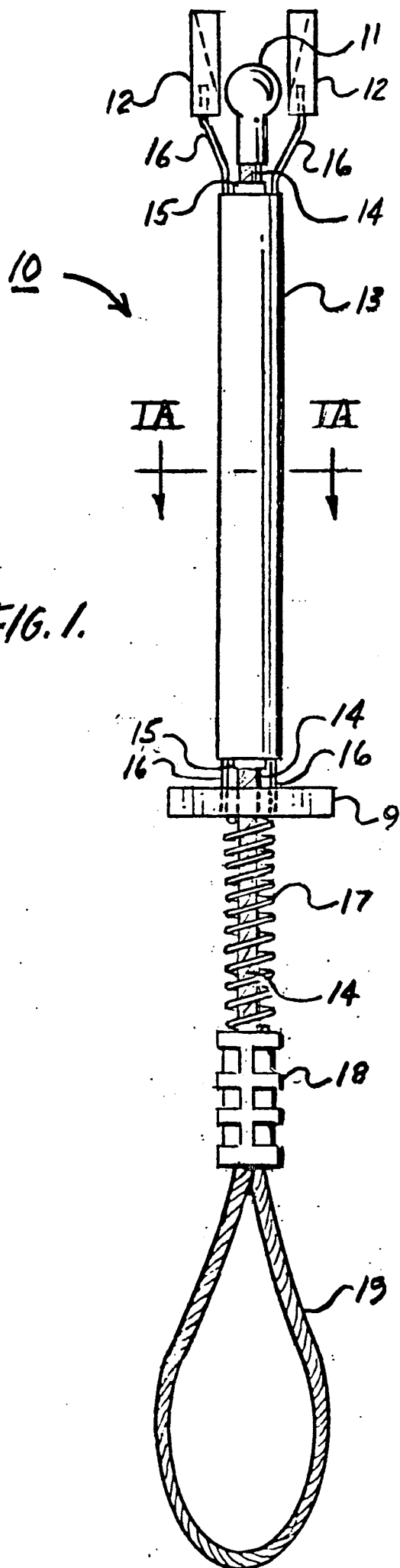
17. The chock of Claim 15 further including a

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conduit for said at least one wire and said cable, said conduit including structure for permitting relative movement of said at least one wire and said cable.

18. The chock of Claim 17 wherein said cable includes a loop structure, wherein an external force applied to said spring is applied between said loop structure and said bar.

19. The chock of Claim 18 said external force applied to said chock is applied to said loop structure.



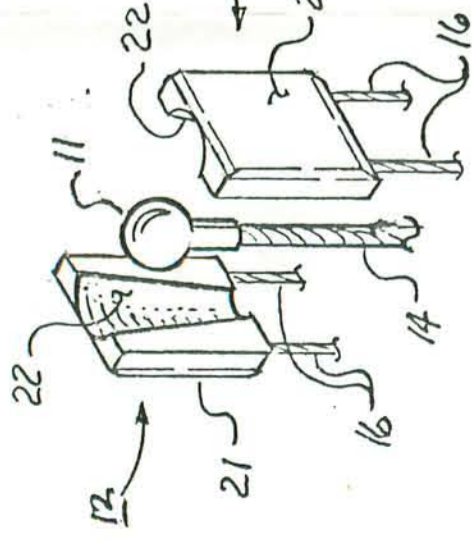


FIG. 2.

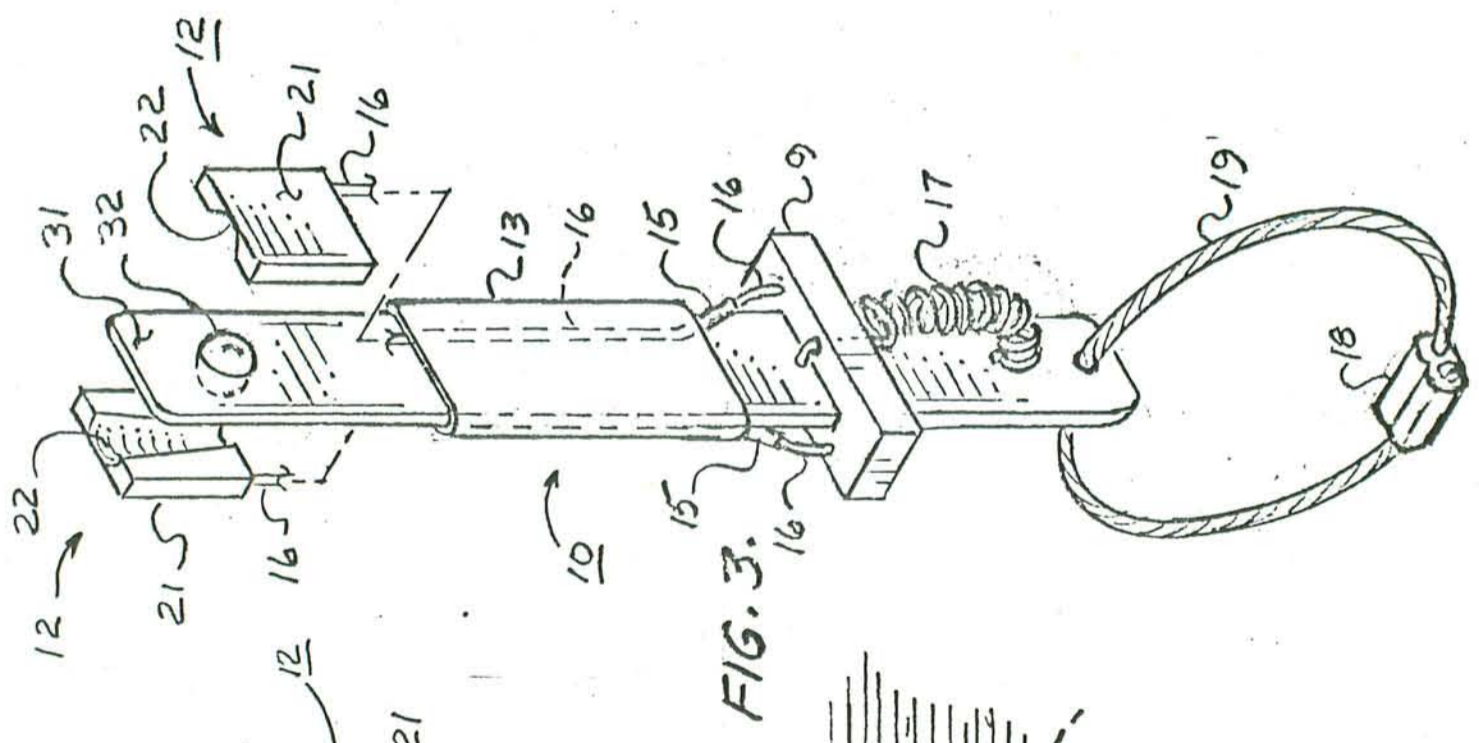


FIG. 3.

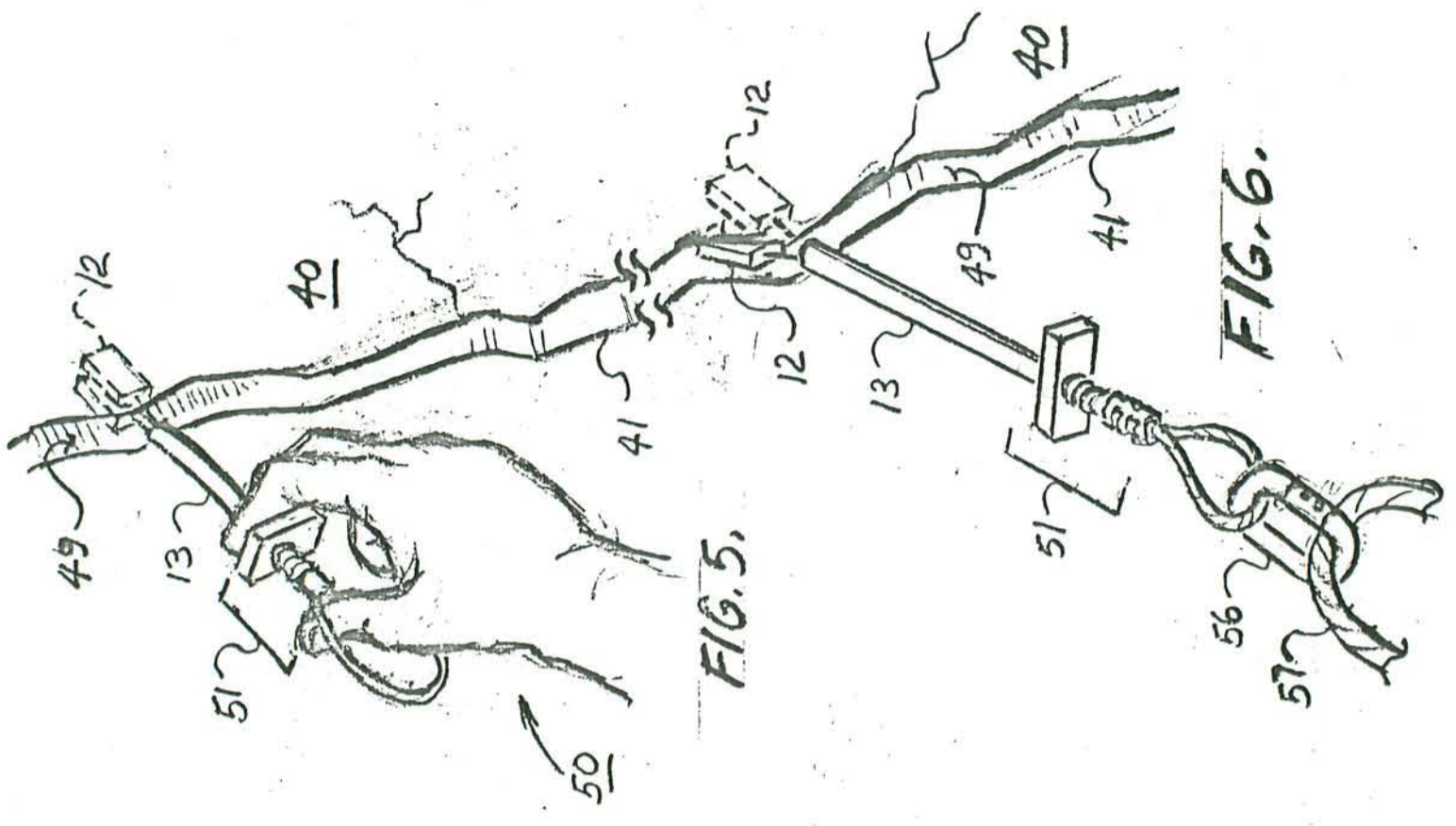


FIG. 5.

FIG. 6.



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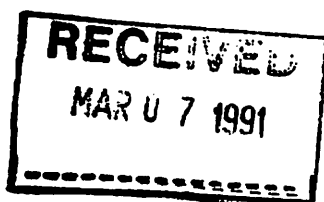
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- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1, 2 and 4-19 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☒ Claims 3 have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1, 2 and 4-19 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other



EXAMINER'S ACTION

Art Unit 355

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1, 2, 4-6 and 11-19 are rejected under 35 U.S.C. § 103 as being unpatentable over Byrne in view of Pepper, Jr. Byrne discloses a climbing chock comprising a first and second member, a wedge member, tapered groove to allow sliding and camming of the first and second members, spring means and spring release means. Pepper, Jr. discloses a climbing chock with two generally planar members with grooves to receive the camming member (3). To reverse the parts of the chock of Byrne to have two planar members on the outside and a cam element between the two as taught by Pepper, Jr. since a person of ordinary skill in the art would recognize the advantage of providing a greater engaging surface would have been obvious to one of ordinary skill in the art. Note that in modifying Byrne the resulting cam

element would be a spherical member.

Claims 7-10 are rejected under 35 U.S.C. § 103 as being unpatentable over Byrne in view of Pepper, Jr. as applied to claims 1, 2, 4-6 and 11-19 above, and further in view of Jardine. To provide the chock of Byrne with a rigid elongated body as taught by Jardine would have been obvious to one of ordinary skill in the art.

Applicant's arguments filed November 30, 1990 have been fully considered but they are not deemed to be persuasive. The combination would result in a reversal of parts of Byrne chock. The Byrne chock has a groove on the outside of the expander to receive the elements (15). Pepper, Jr. shows the outer elements with groove on their inner surface to receive the expander. A person of ordinary skill in the art would recognized the advantage of reversing the parts and providing the larger element on the outside with a groove to receive the expander to increase the surface contact with the rock.

The amendment to the specification has not been entered because the page and line numbers appear to be incorrect. Please review and make appropriate corrections.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS

Serial No. 393213

-4-

Art Unit 355

ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication should be directed to Examiner David L. Talbott at telephone number (703) 308-2168.

Talbott/MM
February 26, 1991

**DAVID L. TALBOTT
PRIMARY EXAMINER
ART UNIT 355**

William W. Holloway, Ph.D.
Patent Attorney
Patents
Trademarks
Copyrights
Trade Secrets

WILLIAM W. HOLLOWAY, P.C.
Counseling in Intellectual Property
626 E. Orangetown Avenue
Phoenix, Arizona 85020
(602) 943-7115

248-0982

2-3 weeks
Application number
→ 4-5 months after that

Patent Law Offices
Parkview Center II
8453 North Black Canyon Highway
Suite 105
Phoenix, Arizona 85021
(602) 995-2221

John W. Middendorf IV
1109 S. Plaza Way
Flagstaff, AZ 860001

RE: U.S. Patent Application

TITLE: APPARATUS AND METHOD FOR A
VARIABLE CONFIGURATION CLIMBING
CHOCK AND THE LIKE

H-165

July 27, 1989

Dear Mr. Middendorf:

Enclosed herewith are the formal papers that should be submitted with the associated Patent Applications for your execution. The documents included are the Declaration and Power of Attorney, and the Verified Statement Claiming Small Entity Status. Please read them carefully and sign and date them where indicated.

If you have any questions, please do not hesitate to call me.

Sincerely;

Bill

William W. Holloway

Enclosures

William W. Holloway, Ph.D.
Patent Attorney
Patents
Trademarks
Copyrights
Trade Secrets

WILLIAM W. HOLLOWAY, P.C.
Counseling in Intellectual Property
626 E. Orangewood Avenue
Phoenix, Arizona 85020
(602) 943-7115

Patent Law Offices
Parkview Center II
8453 North Black Canyon Highway
Suite 105
Phoenix, Arizona 85021
(602) 995-2221

John W. Middendorf IV
1109 S. Plaza Way
Flagstaff, AZ 86001

July 27, 1989

Invoice No. 89084

FOR LEGAL SERVICES RENDERED

Re: U.S. Patent Application
Title: APPARATUS AND METHOD FOR A VARIABLE
CONFIGURATION CLIMBING CHOCK AND THE
LIKE
Serial No:
Filing Date:
Inventor: John W Middendorf IV
Doc. No: H-165

Professional Services:

For preparing and filing the
Application, the Application including
23 pages with 19 Claims and 2 Figures,
the activity including the preparation
of at least one draft and the preparation
of the formal papers.....\$1,600.00

Disbursements

Drawings (1 additional sheet @ \$70.00/sheet).....\$70.00

Paid on Account (Check No. 471 6/15/89)...\$800.00

AMOUNT DUE.....\$870.00

William W. Holloway, Ph.D.
Patent Attorney
Patents
Trademarks
Copyrights
Trade Secrets

WILLIAM W. HOLLOWAY, P.C.
Counseling in Intellectual Property
626 E. Oranewood Avenue
Phoenix, Arizona 85020
(602) 943-7115

Patent Law Offices
Parkview Center II
8453 North Black Canyon Highway
Suite 105
Phoenix, Arizona 85021
(602) 995-2221

August 11, 1989

John Middendorf IV
1109 S. Plaza Way #286
Flagstaff, AZ 86001

RE:


Title: APPARATUS AND METHOD FOR A VARIABLE
CONFIGURATION CLIMBING CHOCK AND THE LIKE
Inventor: John Middendorf IV
Docket No: H-165

Dear John,

Enclosed are copies of the documents sent to the U.S. Patent
Office regarding your patent Application.

If you have any questions, do not hesitate to contact me.

Sincerely;



William W. Holloway

Enclosures

PATENTS, TRADEMARKS,
COPYRIGHTS, LICENSING
AND RELATED MATTERS

LAW OFFICES
CATES & HOLLOWAY
SUITE 1210
2700 NORTH CENTRAL AVENUE
PHOENIX, ARIZONA 85004
(602) 248-0982

FACSIMILE
(602) 234-3330
CABLE ADDRESS
PATLAW

July 9, 1990

John W. Middendorf IV
A5 Adventures
1109 S. Plaza Way #286
Flagstaff, AZ 86001

Re: Title: APPARATUS AND METHOD FOR A VARIABLE
CONFIGURATION CLIMBING CHOCK AND THE LIKE
Inventor: John W. Middendorf IV
Serial No. 07/393,213
Filed: August 14, 1989
Docket No. H-165

Dear John:

We have received an Office Action concerning the above-identified U.S. Patent Application, a copy of which is herewith enclosed for your review.

Basically, the Examiner cites U.S. Patent 4,834,325 by Steve J. Byrne, as being similar to our Application. In particular, he states that the chock configuration shown in Fig. 2A, Fig. 5A, Fig. 5B and Fig. 5C are so similar to the chock of our Application that a U.S. Patent can not be granted.

We can amend our claims to distinguish over the Byrne reference by describing to the Examiner why our configuration is superior. (I would appreciate help with this argument).

However, the Byrne patent is very close and care will have to be taken in preparing these arguments. The other comments by the Examiner involve formal matters for which response would be relatively uncomplicated.

Page 2
Middendorf
July 9, 1990

If you wish to proceed with the Application, I estimate the cost will be between \$325.00 and \$400.00.

After reviewing these materials please telephone me to determine how we should proceed.

Sincerely,

A handwritten signature in blue ink that reads "Bill".

William W. Holloway

WWH/ch

Enclosures

PATENTS, TRADEMARKS,
COPYRIGHTS, LICENSING
AND RELATED MATTERS

LAW OFFICES
CATES & HOLLOWAY
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CABLE ADDRESS
PATLAW

John W. Middendorf IV
A5 Adventures, Inc.
1109 S. Plaza Way
#286
Flagstaff, AZ 86001

November 30, 1990

Invoice No. 90111

FOR LEGAL SERVICES RENDERED

Re: U.S. Patent Application
Title: APPARATUS AND METHOD FOR A VARIABLE
CONFIGURATION CLIMBING CHOCK AND THE
LIKE
Serial No: 07/393,213
Filing Date: August 14, 1989
Inventor: John W Middendorf IV
Doc. No: H-165

Professional Services:

For preparing and filing a
responsive Amendment Letter, the
Amendment Letter amending having 12
pages amending 13 claims, as
previously discussed.....\$400.00

Disbursements

Extension Fee (contribution by inventor
to the \$365.00 fee
resulting from delayed
response to letter dated
July 9, 1990).....\$95.00

AMOUNT DUE.....\$495.00

PATENTS, TRADEMARKS,
COPYRIGHTS, LICENSING
AND RELATED MATTERS

LAW OFFICES
CATES & HOLLOWAY
SUITE 1210
2700 NORTH CENTRAL AVENUE
PHOENIX, ARIZONA 85004
(602) 248-0982

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(602) 234-3330

CABLE ADDRESS
PATLAW

John W. Middendorf IV
1109 S. Plaza Way
Flagstaff, AZ 86001

August 9, 1991

Re: U.S. Patent Application
Serial No: 07/393,213
Filed: August 14, 1989
Title: APPARATUS AND METHOD FOR A VARIABLE
CONFIGURATION CLIMBING CHOCK AND THE
THE LIKE
Inventors: John W. Middendorf IV
Docket No: H-165

Dear John:

A Office Action concerning the above identified U.S. Patent Application has been received from the U.S. Patent and Trademark Office, a copy of the Office Action being herewith enclosed.

The Office Action is a final rejection of all Claims and is not good news. The Examiner has not bought the arguments which we presented in our last Amendment Letter and rejected the Claims as being obvious over the cited references.

At this point, we have three options: 1.) to file a continuation Application and, by modifying the Claims, attempt to convince the Examiner that the subject matter is allowable; 2.) to file an Appeal from the decision of the Examiner before the Patent Office Board of Appeals. The Board of Appeals will support the Examiner in a majority of the situations and the process, including preparation of the Appeal Brief, is time consuming and therefore expensive; and 3.) not go forward. If your wish to go forward, I would suggest option 1 as being the best strategy at this point. However, the net result may be that two years from now, we will be facing the same situation.

Please review this matter and determine how you would like to proceed and contact me when you have reached a decision. I can be reached at the telephone number following my address. (This telephone number is my office number at the Eastman Kodak Company in Rochester, N.Y.)

If you have any questions, please do not hesitate to contact me.

Sincerely;



William W. Holloway
(716) 722-2396



America the Beautiful USA 15

William W. Holloway, P.C.
626 E. Oranewood Avenue
Phoenix, Arizona 85020

PATENT LAW OFFICES OF WILLIAM W. HOLLOWAY P.C.
626 E. Grangewood Avenue
Phoenix, AZ 85020

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: John W. Middendorf IV

EXAMINER:

SERIAL NO:

ART UNIT:

FILED:

DOC. NO: H-165

FOR: APPARATUS AND METHOD FOR A VARIABLE

CONFIGURATION CLIMBING CHOCK AND THE LIKE

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

William W. Holloway, P.C.
626 E. Orangewood Avenue
Phoenix, AZ 85020

August 11, 1989

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97-1.99

Dear Sir:

With respect to the U.S. Patent Application transmitted herewith, the following references (copies of which are enclosed herewith) have been identified:

| | | |
|---------------------|-----------------------|---------------|
| 1.) Feuerer | U.S. Patent 3,467,351 | Sep. 3, 1967 |
| 2.) Lowe | U.S. Patent 3,877,679 | Apr. 15, 1975 |
| 3.) Pepper, Jr. | U.S. Patent 3,903,785 | Sep. 9, 1975 |
| 4.) Lyman, Jr. | U.S. Patent 3,946,975 | Mar. 30, 1976 |
| 5.) Chouinard et al | U.S. Patent 3,948,485 | Apr. 6, 1976 |
| 6.) Campbell | U.S. Patent 3,957,237 | May 18, 1976 |
| 7.) Campbell | U.S. Patent 4,044,976 | Aug. 30, 1977 |
| 8.) Saunders et al | U.S. Patent 4,069,991 | Jan. 24, 1978 |
| 9.) Simond | U.S. Patent 4,074,880 | Feb. 21, 1978 |
| 10.) Burkey | U.S. Patent 4,082,241 | Apr. 4, 1978 |
| 11.) Greiner, II | U.S. Patent 4,083,521 | Apr. 11, 1978 |

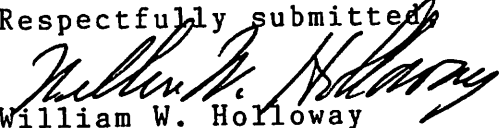
| | | |
|---------------|-----------------------|---------------|
| 12.) Jardine | U.S. Patent 4,184,657 | Jan. 22, 1980 |
| 13.) Vallance | U.S. Patent 4,422,607 | Dec. 27, 1983 |
| 14.) Ching | U.S. Patent 4,491,291 | Jan. 1, 1985 |
| 15.) Grow | U.S. Patent 4,565,342 | Jan. 21, 1886 |
| 16.) Phillips | U.S. Patent 4,572,464 | Feb. 25, 1986 |
| 17.) Taylor | U.S. Patent 4,575,032 | Mar. 11, 1986 |
| 18.) Cason | U.S. Patent 4,586,686 | May 6, 1986 |

DISCUSSION

The relevance of these references is discussed in the Application in the section entitled "Description of the Related Art".

Please charge any additional expenses arising from this Submission of References to Deposit Account No. 08-2663.

Respectfully submitted,


 William W. Holloway
 Registration No. 26,182
 Attorney for Applicant
 (602) 995-2221

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: John W. Middendorf IV EXAMINER:
SERIAL NO: ART UNIT:
FILED: DOC. NO: H-165
FOR: APPARATUS AND METHOD FOR A VARIABLE
CONFIGURATION CLIMBING CHOCK AND THE LIKE

Honorable Commissioner of
Patents and Trademarks
Washington, D.C. 20231

William W. Holloway, P.C.
626 E. Orangewood Avenue
Phoenix, AZ 85020

August 11, 1989

PRELIMINARY AMENDMENT

Dear Sir:

In the U.S. Patent Application submitted herewith, please
amend the Application as follows:

In the Specification

Before "BACKGROUND OF THE INVENTION", please insert

--RELATED DOCUMENT -

This application is related to Disclosure Document 228813
filed on June 7, 1989.--

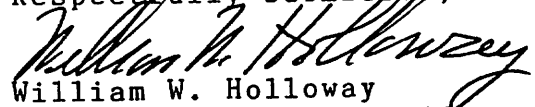
Remarks

Reference to the Disclosure Document was inadvertently

omitted from the Application reviewed by the inventor prior to execution of the Declaration.

Please charge any additional expenses arising from this Preliminary Amendment to Deposit Account No. 08-2663.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "William W. Holloway", written in dark ink.

William W. Holloway
Registration No. 26,182
Attorney for Applicants
(602) 995-2221



A5 Adventures, Inc.

1109 S. Plaza Way #286, Flagstaff, AZ 86001 USA (602) 779-5084

William W. Holloway, PC
626 E. Orangewood Avenue
Phoenix, AZ 85020
July 4, 1989

Dear Mr. Holloway;

I have looked over the draft carefully, and it looks good. My only suggestion would be to organize the references of related art more according to function. I would group them as follows:

Hammer-in Devices

- X Patent # 3,467,351 "Anchoring Device" ✓

Simple Wedge Devices

- X Patent # 3,946,975 "Climber's Chockstone" ✓
- X Patent # 3,948,485 "Irregular, Polygonal Mountaineering Chock" ✓
- X Patent # 3,957,237 "Chocks" ✓
- X Patent # 4,044,976 "Chocks" ✓
- X Patent # 4,074,880 "Climbing Wedge" ✓
- X Patent # 4,082,241 "Chock for Mountain Climbing" ✓
- X Patent # 4,083,521 "Anchoring Device For Climbing Ropes" ✓
- X Patent # 4,422,607 "Climbing Chocks" ✓

Camming Devices

- X Patent # 3,877,679 "Anchor Device for Mountain Climbers" ✓
- X Patent # 4,069,991 "Chock for Rock Climbing" ✓
- X Patent # 4,184,657 "Climbing Aids"
- X Patent # 4,565,342 "Anchoring Device for Rock Climbing" ✓
- X Patent # 4,575,032 "Rock Climbing Adjustable Chock" ✓

Other Devices (These are actually poor designs and never came to market)

- X Patent # 4,491,291 ✓
- X Patent # 4,586,686 ✓

Devices related to the present invention

- X Patent # 3,903,785 "Rock Climbing Anchor" ✓
- X Patent # 4,572,464 "Change Configuration Climbing Chock" ✓

The Jardine Camming Patent (# 4,184,657) is a very important one--please include. The "Other Devices" above are unimportant and can be deleted.

Please go ahead with this patent as soon as possible. Thank you.

Yours sincerely,

John Middendorf



A5 Adventures, Inc.

1109 S. Plaza Way #286, Flagstaff, AZ 86001 USA (602) 779-5084

William W. Holloway, P.C.
626 E. Orangewood Avenue
Phoenix, AZ 85020
943-7115

Dear Mr. Holloway;

Enclosed please find a check for \$870, signed Declaration and Power of Attourney, signed Verified Statement Claiming Small Entity Status, and a copy of the cover page of the Discosure Document which was received by the Patent Office on June 7, 1989.

Please call if there is anything holding up the speedy submission of this patent. Thank you very much for your expertise in this patent application.

Yours sincerely,

John Middendorf

Express Mail Label No.

Attorney's Docket No.: H-165

Applicant: John W. Middendorf IV

Title: APPARATUS AND METHOD FOR A VARIABLE CONFIGURATION
CLIMBING CHOCK AND THE LIKE

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) AND 1.27(b))--INDEPENDENT INVENTOR

As the below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled:

APPARATUS AND METHOD FOR A VARIABLE CONFIGURATION
CLIMBING CHOCK AND THE LIKE

described in the specification filed herewith.

I have not assigned, granted, conveyed, or licensed and am not under an obligation under contract or law to assign, grant, convey, or license any rights in the invention.

I acknowledge the duty to file, in this application or any patent issuing therefrom, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Inventor

Date:

INVENTOR:
John W. Middendorf IV
1109 S. Plaza Way #286
Flagstaff, AZ 86001

*Please sign
and date
above*



A5 Adventures, Inc.

1109 S. Plaza Way #286, Flagstaff, AZ 86001 USA (602) 779-5084

William W. Holloway, PC
626 E. Orangewood Avenue
Phoenix, AZ 85020
September 11, 1989

Dear Mr. Holloway;

Thank you very much for your interest and work on my patent for the "Monkey Paws". I am really pleased with the completeness and accuracy of the patent, and with the expedience that it was documented and submitted to the Patent Office. I hope we can work together on any possible future patents which I may seek.

Please notify me as soon as the Notice of Allowance and/or the Notice of Issuance is received by your office. I am looking forward to procuring a metal die stamp with the patent number on it! All the climbers who have product tested the Monkey Paws in the vertical field have raved about them.

Yours sincerely,

John Middendorf
A5 Adventures



A5 Adventures, Inc.

1109 S. Plaza Way #286, Flagstaff, AZ 86001 USA (602) 779-5084

copy
sent ✓

Cates, Phillips, and Holloway
Attn: Bill Holloway
2700 N. Central Suite 1210
PHX, AZ 85004

November 21, 1990

Dear Bill;

This is to confirm that I would like you to go ahead with the resubmission of my patent application for the Monkey Paws.

I see my design as unique in that it utilizes a full ball. In fact, I would like to see my patent cover as broad as area as possible for mechanisms in this realm utilizing a full ball. I understand, however, that the claims need to be rewritten so as to exclude any previously patented designs.

Previously, you mentioned that it was possible to expedite a patent with some sort of rush order request. Let's do that, if possible. We are in the final process of prototyping the Monkey Paw and are ready to manufacture quantities for distribution (we have some finished versions if you would like to see a sample). It would be nice to have all legal aspects taken care of before marketing our product.

Looking forward to hearing from you. Sincerely yours,

John Middendorf
A5 Adventures, Inc.



A5 Adventures, Inc.

1109 S. Plaza Way #286, Flagstaff, AZ 86001 USA (602) 779-5084

Cates and Holloway
Attn: Bill Holloway
Suite 1210
2700 North Central Avenue
Phoenix, AZ 85004
602-248-0982

Dear Bill:

I feel like I am losing out on this deal in a big way. The most frustrating aspect of all this is the fact that using a ball and grooved wedge for climbing protection was my original concept, which I described to Steve Byrne, resulting in his patent of the half-ball and grooved wedge idea. Now I cannot even continue working on my original ideas with the full ball.

In any case, I feel that the Monkey Paw is superior to the chock configuration shown in Fig. 5A, 5B, and 5C of the Steve Byrne patent because of the tendency in practice for the small half-balls to "invert" in downward flaring placements, causing instability in the piece. The larger outer wedges of the Monkey Paw prevent this tendency.

As far as the similarity of the Monkey Paws similarity to Fig. 2A of the Steve Byrne patent, I have no explanation.

The fact that the Monkey Paw utilizes a full-ball, and the fact that it is a 3-part design, is paramount to its uniqueness patent.

If you really feel that continuing to proceed with my application is in my best interests, let's continue. Otherwise, I ask you this: If another company started manufacturing the Monkey Paw similar to the Fig. 1 of my application, would the documentation that we've done thus far (i.e. the disclosure document and the application itself) prove my original "proprietary-ness" to the idea? Would I have any legal recourse at all?

Looking forward to hearing from you. Sincerely yours,

John Middendorf



A5 Adventures, Inc.

1109 S. Plaza Way #286, Flagstaff, AZ 86001 USA (602) 779-5084

William W. Holloway, P.C.
8453 North Black Canyon Highway
Suite 105
Phoenix, AZ 85021
(602) 995-2221

Dear Mr. Holloway;

First, thank you very much for your advice and consideration in this project so far. Discussing the Patent Process with you has made the process seem far more reasonable than I previously imagined.

Enclosed is a copy of the disclosure agreement that I have Federal Expressed to the Commissioner of Patents and Trademarks. Also enclosed is the front page of the copies of some patents pertaining to the rock-climbing industry. I've also included a copy of my business's catalog.

I think a patent for this idea is of paramount importance. It is becoming clear to me and to others who have seen my invention that the 3-part design is a breakthrough in climbing chockstones, and I feel a strong need for protection. Many aspects of a 2-part chockstone design which is presently being patented by a "friend and competitor" (Steve Byrne, who sold the 2-part idea to Lowe Corporation for \$10,000) was based on my original ideas (i.e., the grooved wedge), and I do not want to repeat the frustration of being gypped out of credit/compensation of another valuable idea. Steve now works for Lowe, and like a fool I showed him my latest design, and he's made some implications that it is an infringement of "his" patent-pending design, which leads me to suspect that he may try to include the three-part design in his patent. I've gotten a signed affidavit acknowledging my involvement in the 2-part design by one of the people who was there when it was developed (two-years ago), so I think I'd have a case contesting Steve's patent if it came down to that. All I really want is exclusive rights to the 3-part design, which I am sure is completely original on my part.

Really looking forward to working with you on this project.

Yours Sincerely,

John Middendorf