United States Patent [19]

Hoffman

[11] **3,717,219**

[45] **Feb. 20, 1973**

[54] DESCENT AND ASCENT DEVICE FOR USE ON A ROPE

[76] Inventor: **Joseph J. Hoffman,** 4133 McGaha, Wichita Falls, Tex. 76308

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[21] Appl. No.: **91,671**

[52] **U.S. Cl.** **182/6,** 182/135, 188/65.4

[51] **Int. Cl.** **A62b 1/14**

[58] **Field of Search**.....182/133, 134, 135, 136, 5, 182/6, 7; 188/65.4, 65.2

[56] **References Cited**

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Primary Examiner—Reinaldo P. Machado
Attorney—Wayland D. Keith

[57] **ABSTRACT**

A device to be used for descent and ascent on a rope, which rope is anchored near its upper end. A first rope engaging member adapted to be threaded onto the rope intermediate the ends thereof, without passing the ends of the rope therethrough, and, by the reverse operation, the first rope engaging member may be removed from the rope without passing the ends of the rope therethrough. When the device is used for descent on a rope. Friction on the rope is generated by a plurality of cylindrical members on the device to enable a person to be lowered at a controlled rate of speed, by manipulation of the tension on the loose or free end of the rope. A cam friction member is provided which is utilized to hold the device and the person in static relation with respect to the rope when desired, or to cooperate with a second rope engaging member when ascending the rope. When ascending a rope, which is anchored near its upper end, a rope engaging mechanism is pivotally mounted on the feet of the person doing the climbing, which mechanism has a rope engaging cam associated therewith, so, by movement of the feet laterally, the second rope engaging member may be clamped to the rope to enable a cam actuated friction member supporting the climber to be released from the rope and be moved upwardly to engage with the rope at a higher elevation, so by alternately contracting and extending the legs, the climber can climb upwardly on the rope, coupled with the climber moving the first rope engaging member upwardly and frictionally engaging the member with the rope, the climber may readily ascend the rope to the anchor point.

12 Claims, 22 Drawing Figures

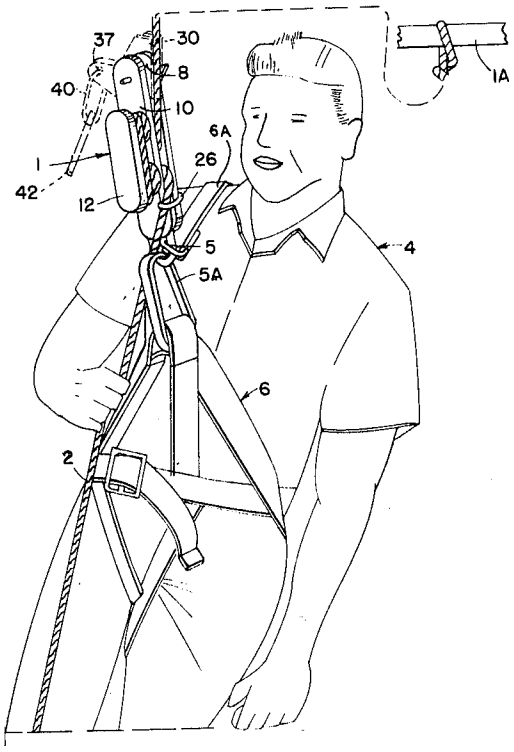
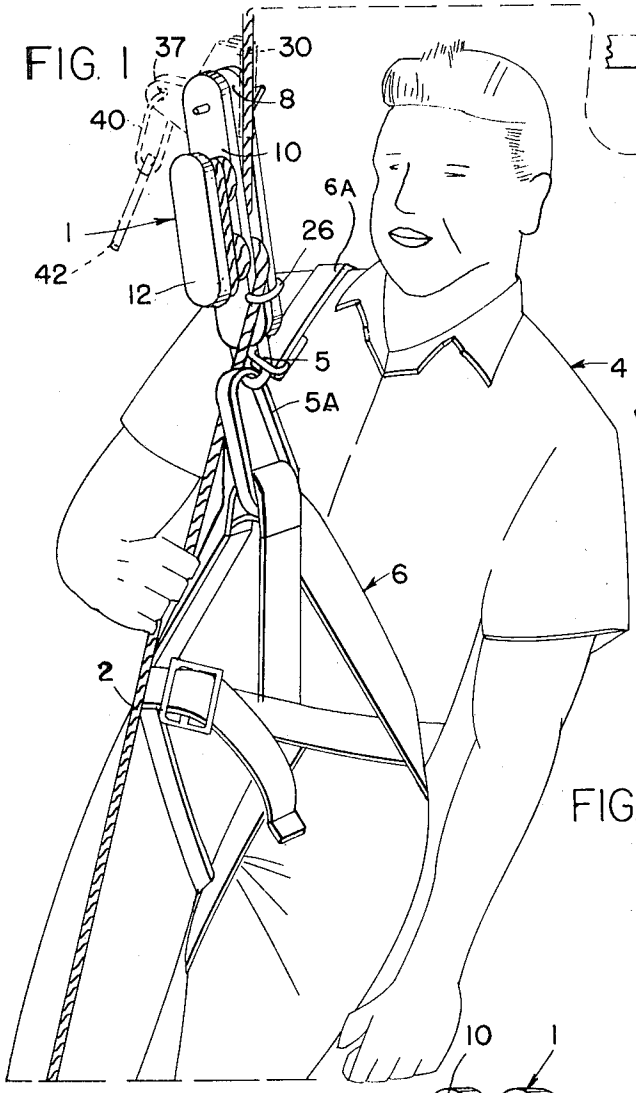


FIG. 1



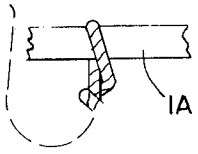


FIG. 2

FIG. 4

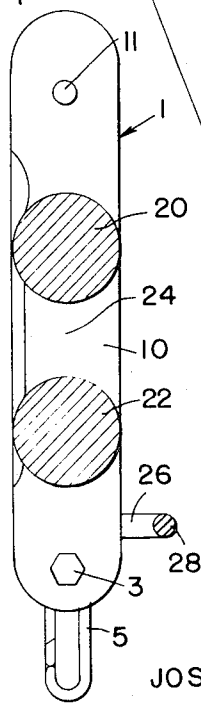


FIG. 3

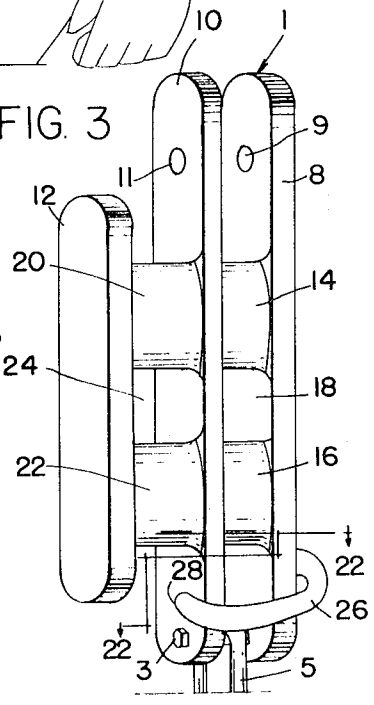


FIG. 22

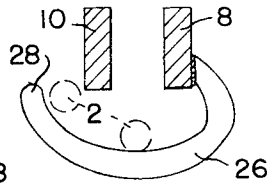
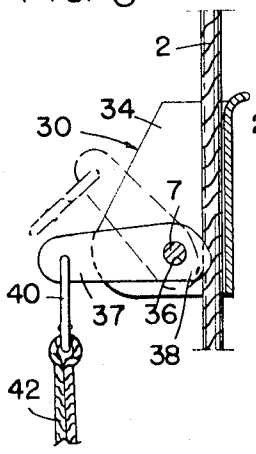


FIG. 5



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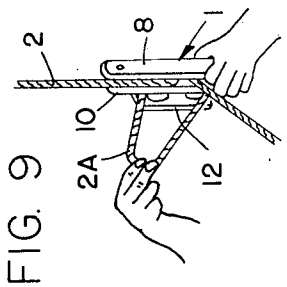


FIG. 9

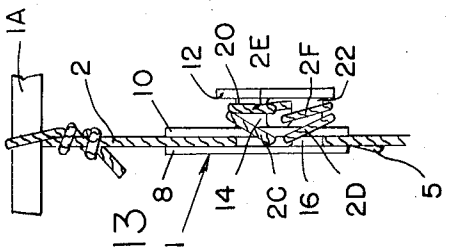


FIG. 13

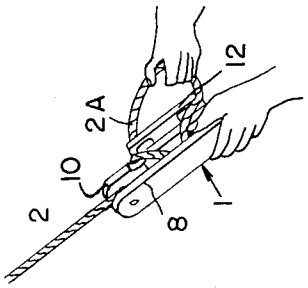


FIG. 8

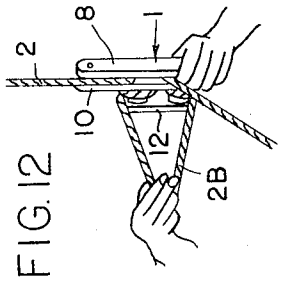


FIG. 12

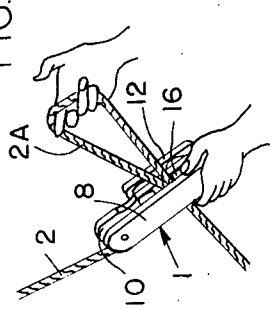


FIG. 7

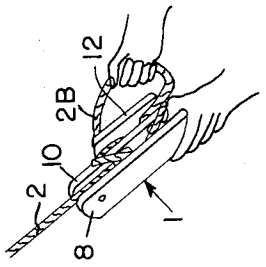


FIG. 11

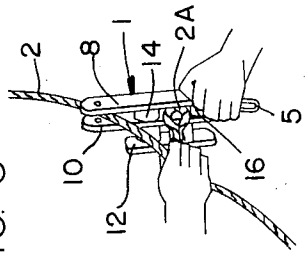


FIG. 6

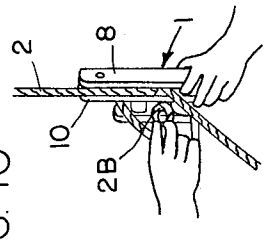


FIG. 10

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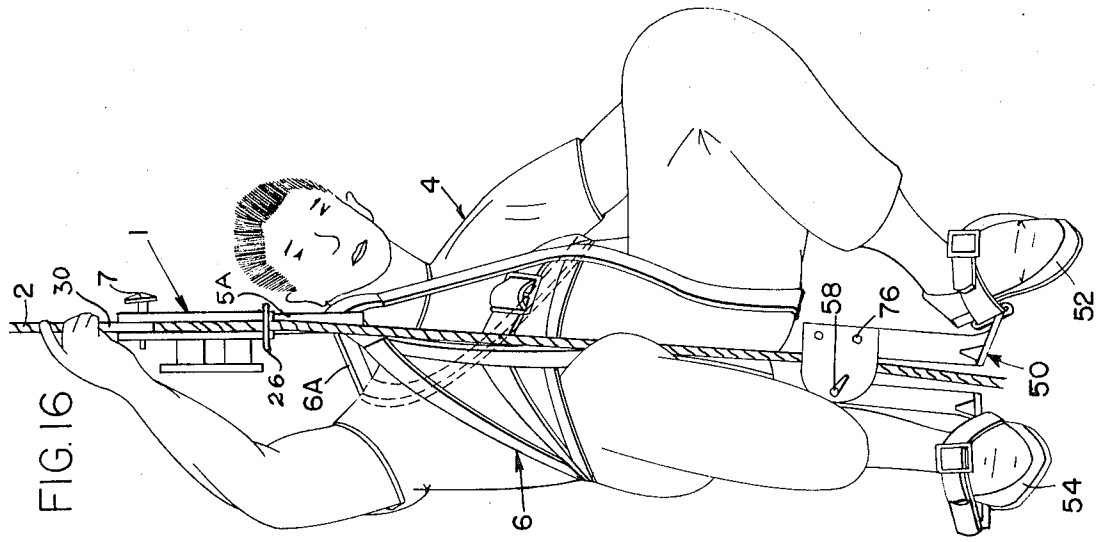


FIG. 16

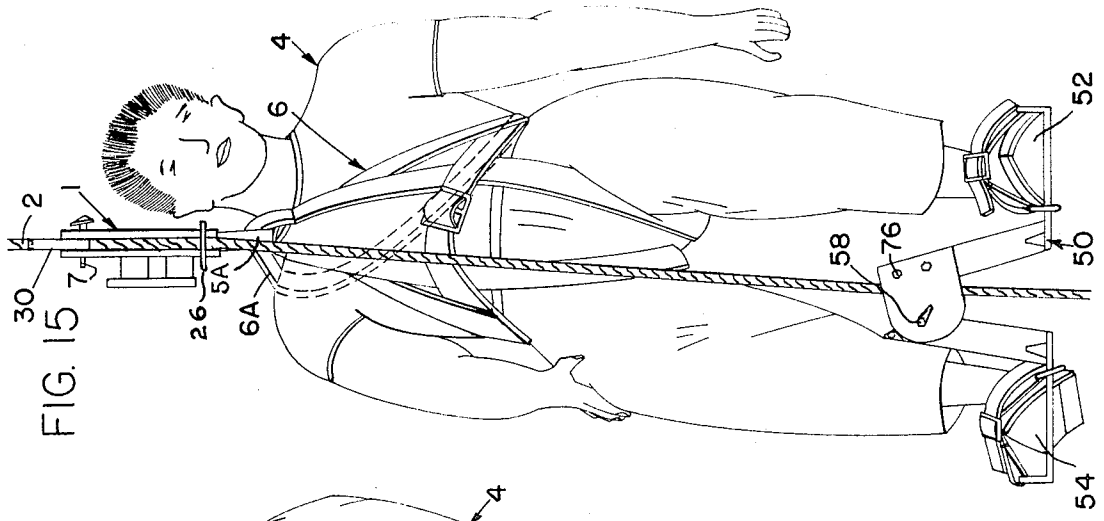


FIG. 15

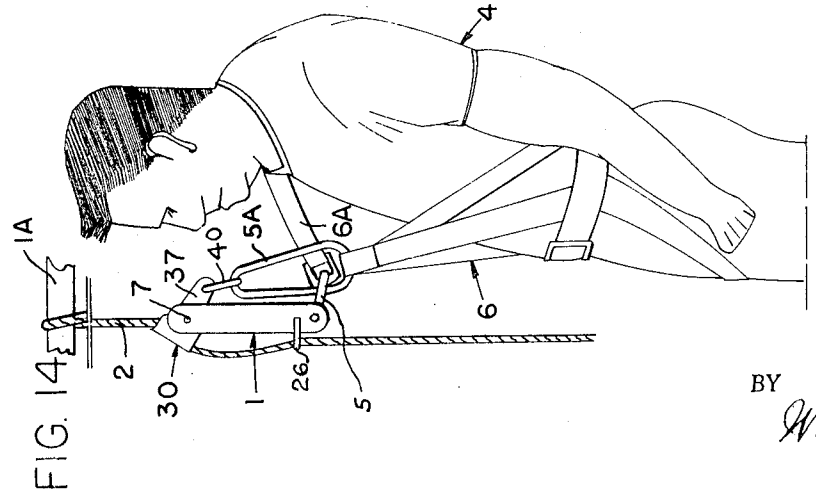


FIG. 14

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FIG. 17

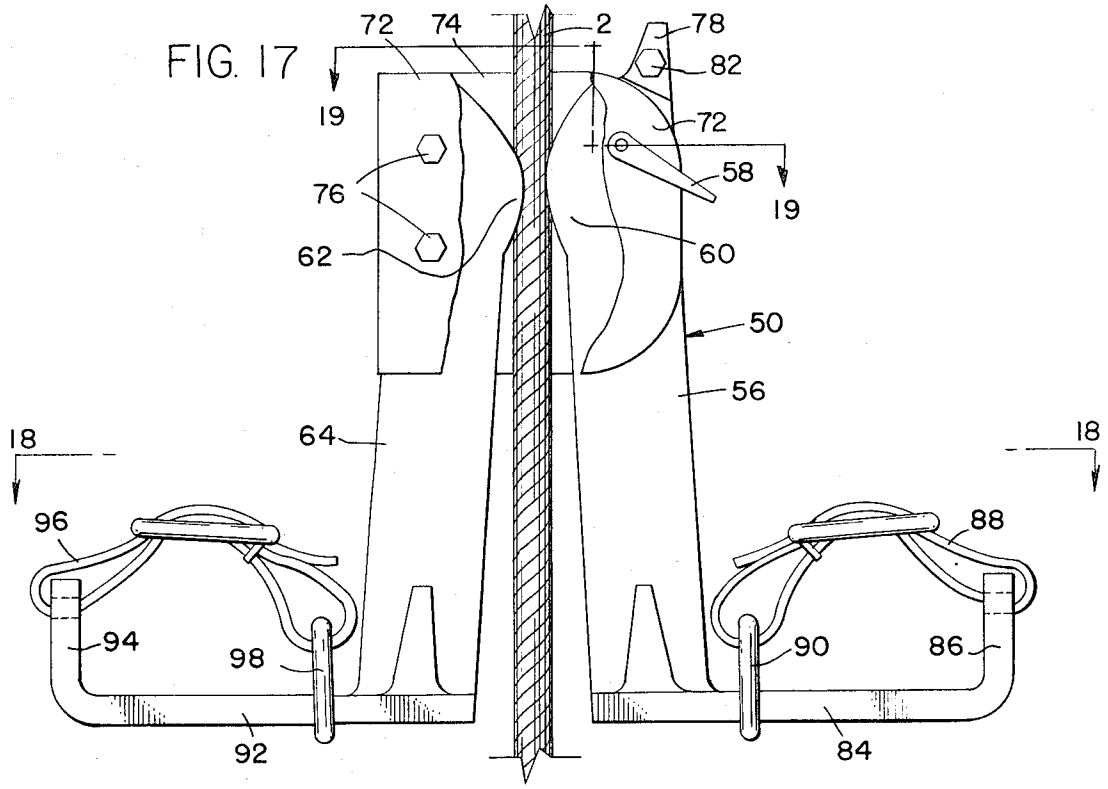


FIG. 18

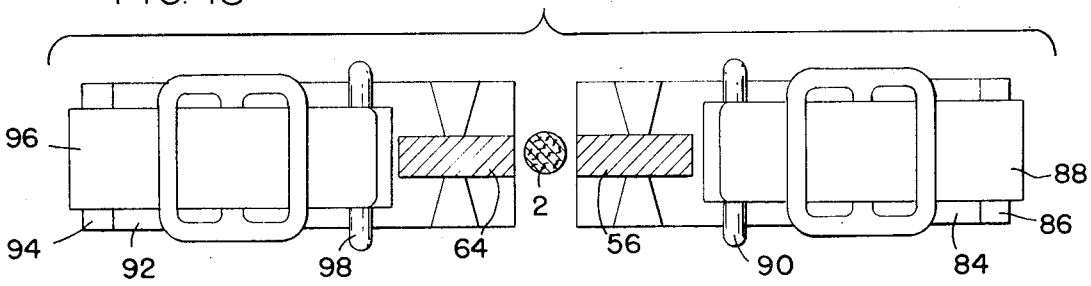
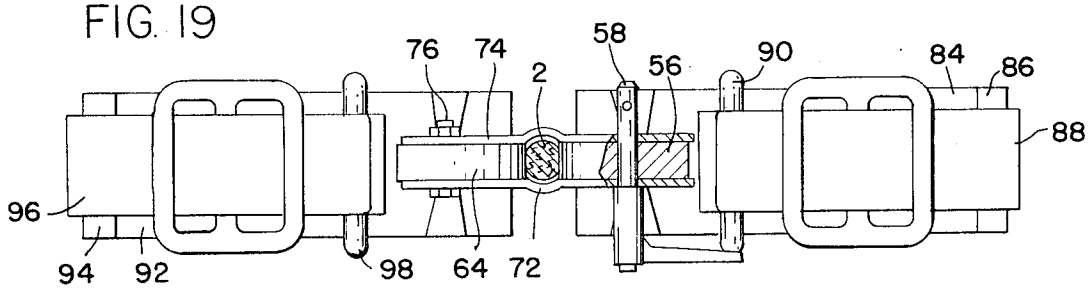


FIG. 19



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FIG. 20

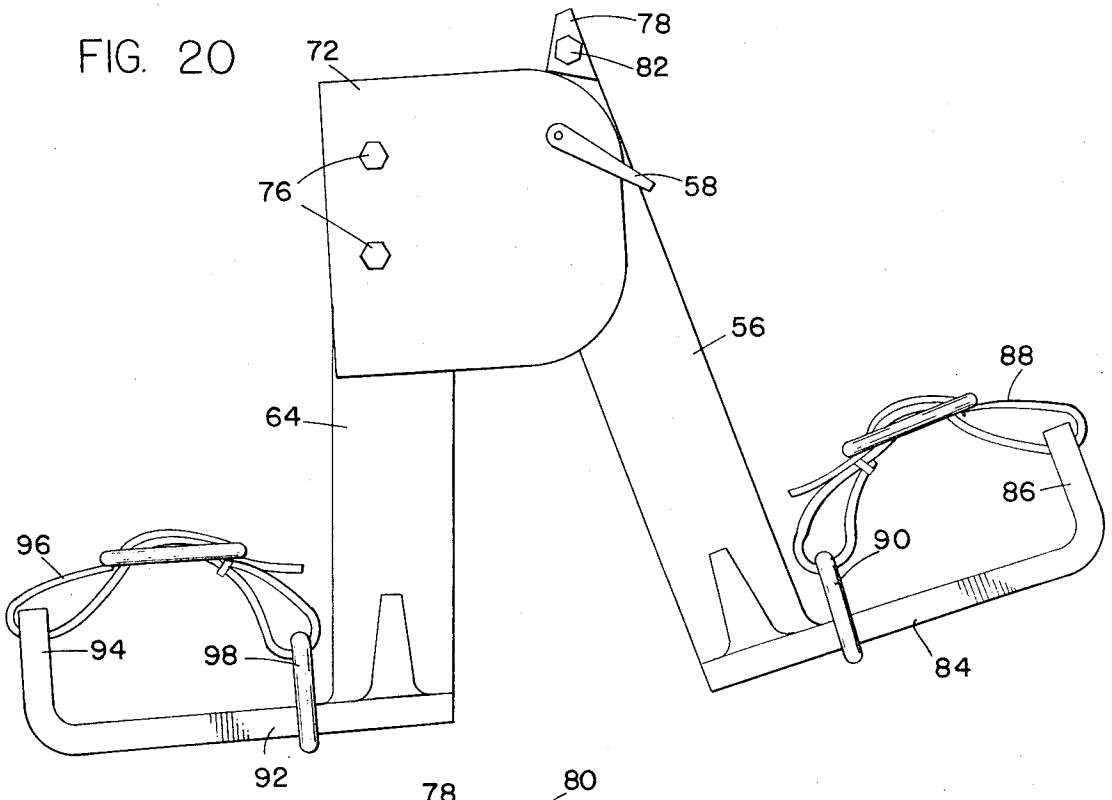
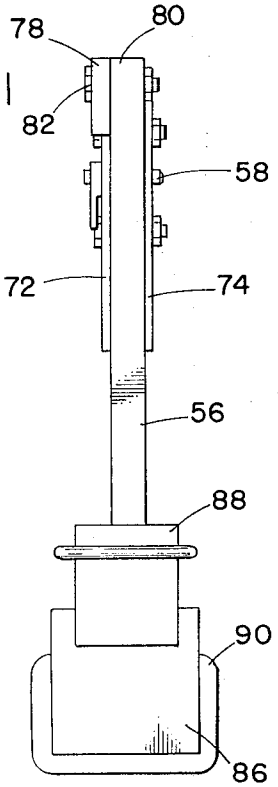


FIG. 21



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DESCENT AND ASCENT DEVICE FOR USE ON A ROPE

SUMMARY OF THE INVENTION

This invention relates to an apparatus to enable a person to move vertically on a rope, either downwardly or upwardly, and more particularly to a device that may be used in mines, caves, or as a fire escape from buildings, and the like.

Various devices have been proposed heretofore for descending and ascending ropes, but these, for the most part, were complex in design and required experienced personnel to master the mechanics of such devices. The present device is so constructed that a person with little practice can either ascend or descend a rope with minimal effort and in a minimum of time.

The present device is so constructed that it may be readily carried from place to place as a portable unit, and with the upper end of the rope fastened to an anchor within a building or a window sill it will enable the descending from the building or ascending thereinto. The device also may be used in the descending into wells, craters, mines, caves, or the like, and ascending therefrom without assistance of additional personnel.

OBJECTS OF THE INVENTION

An object of this invention is to provide an efficient device to enable a person either to descend on a rope from a higher elevation, or ascend on a rope from a lower elevation to a higher elevation to which the rope is anchored.

Another object of the invention is to provide an apparatus that is readily usable on buildings to gain access to non laddered areas of the building.

A further object of the invention is to provide an ascending and descending device to enable the repair of roofs and steeples of buildings which are too steep to be able to maintain balance without falling.

Still another object of the invention is to provide an ascending and descending device for use in mountain climbing, cave exploration, and the like.

Still a further object of the invention is to provide an ascending and descending device whereby a person, while in suspension on the device, may change from the descending mode to the ascending mode, or vice versa, without passing the ends of the rope through the device to accomplish either changeover.

A final object of the invention is to provide a descending and ascending device which is simple in construction, easy to use, low in the cost of manufacture and dependable in use.

BRIEF DESCRIPTION OF THE DRAWINGS

With these objects in mind, and others which will become manifest as the description proceeds, reference is to be had to the accompanying drawings, in which like reference characters designate like parts in the several views thereof, in which:

FIG. 1 is a perspective view of a person descending from a higher elevation on a rope, showing, in dashed outline, a braking attachment used when ascending a rope or maintaining a static position thereon;

FIG. 2 is an exploded perspective view of the rope descending device, showing a braking attachment associated therewith, which enables the ascending or maintaining a static position on a rope;

FIG. 3 is a perspective view taken from the opposite side of that shown in FIG. 2, but without the braking attachment associated therewith;

FIG. 4 is a sectional view taken on line 4—4 of FIG. 2, looking in the direction indicated by the arrows;

FIG. 5 is a fragmentary view showing a portion of a rope with the braking mechanism associated therewith, a longitudinal sectional view through the braking mechanism being shown with the braking cam shown in engaged position in full outline, the disengaged position being shown in dashed outline;

FIG. 6 is a diagrammatic view showing the first step of threading the doubled rope into the ascending and descending device, intermediate the ends of the rope;

FIG. 7 shows a second step of drawing the doubled rope, intermediate the ends thereof, through the ascending and descending device sufficiently to make a first loop which is to be passed over the side of the ascending and descending device;

FIG. 8 illustrates the third step of passing a the first loop over the side member of the ascending and descending device;

FIG. 9 illustrates the fourth step of drawing out sufficient rope to form a second loop to be passed in doubled relation between the friction elements of the ascending and descending device;

FIG. 10 shows a fifth step of threading the second doubled loop of rope through the ascending and descending device to enable a further wrap of rope around the friction elements thereof;

FIG. 11 shows a sixth step of passing the second doubled loop of rope over the side member of ascending and descending device to gain a second wrap of the rope therearound;

FIG. 12 shows a seventh step of the looping process complete and ready to tighten the rope onto the ascending and descending device;

FIG. 13 shows an eighth step, the rope arranged in proper position with two wraps around the friction elements of the ascending and descending device to enable slow descent of the device on the rope;

FIG. 14 is a side elevational view showing the braking element holding a person in static relation on the rope and showing the person suspended by a harness;

FIG. 15 is a front elevational view showing a person supported in static relation, prior to using the climbing mechanism to ascend on the rope, and showing the ascending mechanism in free relation with respect to the rope;

FIG. 16 is a view similar to FIG. 15, but with the person ascending the rope, having raised the feet and ascending mechanism with respect to the rope, with the feet having been moved toward each other to clamp the mechanism to the rope prior to releasing the brake mechanism to extend the legs into a standing position to move upwardly on the rope;

FIG. 17 is an enlarged, front, elevational view of the ascending mechanism which attaches to the feet, showing the mechanism gripping the rope to enable ascending the rope, a portion of the mechanism having been broken away to bring out the details of construction of the cams of the mechanism;

FIG. 18 is a sectional view taken on line 18—18 of FIG. 17, looking in the direction indicated by the arrows;

FIG. 19 is a sectional view taken on line 19—19 of FIG. 17, looking in the direction indicated by the arrows, showing the cams gripping the rope;

FIG. 20 is a front elevational view of the climbing mechanism removed from the rope, with the cams thereof being shown in disengaged position;

FIG. 21 is a side elevational view of the climbing mechanism as shown in FIG. 20;

FIG. 22 is a sectional view taken on the line 22—22 of FIG. 3, looking in the direction indicated by the arrows.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With more detailed reference to the drawing, the numeral 1 designates generally an ascending and descending device, which when used on a rope, permits descent on the rope from a higher elevation to a lower elevation. The rope 2 is anchored to any suitable anchor, such as a beam 1A, or other stationary anchor, which may be a window sill, a radiator, a rock or the like, or when used for cave exploration, the rope may be anchored, to safety spikes or hooks, by a cave wall or the like. The numeral 4 designates generally a person being lowered on the descent device, and the numeral 6 designates generally a support harness for the person being lowered. The harness 6 is used both for descent and ascent on the rope 2.

The descent device, designated generally at 1, comprises plates 8, 10, and 12, which plates are spaced apart, as is best seen in FIGS. 2 and 3. The plates 8 and 10 are spaced apart a distance at least the diameter of rope 2, and are joined by spaced apart cylindrical members 14 and 16 to form an opening 18 between the cylindrical members 14 and 16. The opening 18 between the cylindrical members 14 and 16 is of sufficient size to enable the threading of a doubled rope 2 therethrough, as will be more fully brought out hereinafter, and as shown in FIGS. 6 and 7.

The plates 8 and 10 extend outward or above cylindrical member 14 and have the respective apertures 9 and 11 formed therein to receive a pin 7 therethrough, as will be brought out more fully hereinafter. The plates 8 and 10 extend outward from or below cylindrical member 16, each which plate has an aperture formed therethrough, a spaced distance outward from cylindrical member 16, which apertures are aligned to receive a bolt 3 therethrough, which bolt 3 supports a link 5. A harness support loop 5A connects the link 5 with harness 6 to support the person 4 therefrom and from the descent device 1, as shown in FIG. 1.

The plate 12 is spaced from the plate 10 a distance greater than the thickness of two of the ropes to be used on the descent device, which will best be seen in FIG. 13, in fact, the space may be sufficient to accommodate the diameter of three ropes therebetween, to pass over the cylindrical members 20 and 22 and through an opening 24 between the members 20 and 22, which opening is of sufficient size to accommodate the passage of a doubled rope 2 therebetween, to enable the cylinders over which the rope is guided to provide sufficient friction to enable the controlled lowering of the person, regardless of the weight of the individual being lowered.

The plate 8 has a guard rod 26 secured thereto, which rod is curved to extend across the open throat between plates 8 and 10, and has the terminal end 28 thereof spaced from plate 10 to enable a rope to be passed therebetween, as will best be seen in FIGS. 3, 4 and 22. This guard rod 26 enables the rope 2 to be moved into the confines thereof to maintain the rope within the reach of the person using the ascending and descending device.

The device 1 has a rope gripping brake, designated generally by the numeral 30, which may be attached between the upper portions of the plates 8 and 10 of the device 1, by passing pin 7 through apertures 9 and 11 and through apertures 32 in brake shell 34 and through an aperture 36 in pivotally mounted, lever actuated cam 38 to secure the brake 30 on the upper end of the ascending and descending device, so as to encompass the rope to be braked in the manner shown in FIGS. 1 and 5. The cam lever 37 is apertured near the outer end thereof to receive a link 40 therethrough, to which link the cord 42 is attached, as will best be seen in FIGS. 1, 2 and 5.

The brake 30 can be used to grip the rope 2 to hold the load at an intermediate position on the rope 2, while descending, without the person having to exert any pull on the lower end of rope 2, as cam 38 is actuated by pulling the cord 42 which is attached to the link 40 which link is pivotally attached to the outer end of lever 37, or the brake may be used in combination with the ascending device, as will be more fully described hereinafter.

It is to be pointed out that the ascending and descending device 1 is a member of substantially unitary construction, which forms guides, friction elements and, coupled with wraps of rope therearound, increases the friction on the rope to the extent that the person descending the device on a rope can hold a few pounds tension on the lower end of the rope 2, which tension is multiplied by the frictional turns of the rope, such as shown in FIG. 13, so that a person who weighs 200 or more pounds can be safely sustained against movement or can be lowered gradually by the release of tension on the lower end of the rope 2. The shell 34 of the brake 30 and cam 38 are apertured at 32 and 36, respectively, to receive pivot pin 7 therethrough, to enable the rope 2 to be inserted thereinto or removed therefrom intermediate the length of the rope.

OPERATION OF THE DEVICE AS USED FOR DESCENDING

In the use of the device for descending a rope from a higher elevation to a lower elevation, the rope 2 is threaded onto descending device 1 at any point intermediate the ends thereof by doubling the rope and passing a first loop 2A thereof between cylindrical members 14 and 16, as shown in FIGS. 3, 6 and 7, with the rope being passed through the opening 18 between side plates 8 and 10 sufficiently, loop 2A is drawn through to enable the loop to be passed over the ends of plate 12 in the manner shown in FIG. 8, and with the slack in the rope being sufficient to enable the loop 2A to be made of a size to be doubled to form a second loop 2B which is passed through opening 24 between the side plates 10 and 12 and between cylindrical friction members 20 and 22, in the manner shown in FIG.

10, whereupon, the second loop 2B, in rope 2, is again passed over the ends of side plate 12, as shown in FIGS. 11 and 12. Slack in the loop 2B, is removed by pulling one end of the rope 2 until the rope forms convolutions 2C, 2D, 2E, and 2F, FIG. 13, around the cylindrical friction elements 14 and 16, 20 and 22, so, when the load, supported by link 5, exerts weight upon the descending device 1, these convolutions of rope will supply sufficient friction to enable the load to be held static at any point on the rope 2, by exerting a pull on the rope 2 below the descending device 1. By slackening the rope 2 friction on the cylindrical members 14, 16, 20 and 22 will be so relieved as to permit the rope to slip therearound at the desired rate of speed.

The brake 30 is not necessary for descending on the rope 2, but it is not a deterrent against downward movement of the load so long as the cam lever 37 holds the cam in disengaged position. However, if it is desired that the load remain static on the rope, intermediate the length thereof, for an indefinite period of time, the brake 30 can be engaged by pulling on cord 42 to move the cam 38 into the position as shown in FIG. 5, to hold the descent device 1 against downward movement.

If a more rapid rate of descent is desired, a force is exerted by pulling on chord 42 to set the brake 30 to allow the release of tension in rope 2 so that loop 2B can be removed from around cylindrical friction elements 20 and 22 to result in configuration of the rope, as shown in FIG. 9, whereby only two convolutions will surround the cylindrical members 14, 16, 20 and 22. Likewise, if descent is being accomplished with only two convolutions surrounding the cylindrical members and it is desired to slow the descent, then a force is exerted by pulling on chord 42 to set brake 30 to allow the release of tension on rope 2 so that slack can be pulled in loop 2A, as shown in FIG. 9, and the loop 2B added as shown in FIGS. 11, 12 and 13.

While a man is suspended on the rope, he may either change from descending mode to ascending mode, or from ascending mode to descending mode, without passing the ends of the rope through the device to accomplish the changeover, but by manipulation of the loops of the rope in the manner set out above while the tension is not on the rope below cam actuated braking device 30.

MODIFIED FORM OF THE DEVICE USED FOR ASCENT

The form of the invention as used for ascent is shown in FIGS. 14 through 21, wherein the rope 2 is suspended from an anchor 1A, in the same manner as the aforementioned form of the invention, the device is changed over to the ascending mode while suspended on rope 2, by the person 4 first bringing up his knees with the foot actuated rope clamping device 50 open, then clamping the device 50 on rope 2 and standing on the clamping device 50 to release tension on harness 6 which harness passes through loop 5A, which loop 5A passes through loop 5 for ascending mode only. Loop 5A is then pulled up through loop 5 and engaged also in link 40 on cam lever 37. The rope 2 is then unthreaded from device 1, as shown in FIG. 14.

The ascent and descent device 1 has a brake 30 pivotally connected to the upper end thereof by pivot pin 7 so the cam actuated brake lever 37 may be actuated to positively grip the rope 2 to enable the foot actuated rope clamping device, designated generally by the numeral 50, to be moved upward from the position as shown in FIG. 15 to the position shown in FIG. 16, whereupon, by moving the feet 52 and 54, of the person in the harness 6, toward each other, the leg members 56 and 64 of the ascending device 50 which are attached to the respective feet of the person in the harness, the leg members 56 and 64 will pivot about pin 58 to cause cam 60 on leg member 54 to engage rope 2, with a complementary cam 62 on the leg member 64 to positively engage and grip the rope 2, as shown in FIGS. 16, 17 and 19. With the rope thus engaged, the person 4 may move from the squatting position, as shown in FIG. 16 to an upright position, while the cams 60 and 62 engage the rope 2, then, by the pulling action of shoulder strap 6A on ring 5 attached to the ascending and descending device 1, the person 4 moves from the squatting position to the standing position as cam lever 37 is released from rope 2 allowing device 1 to be moved upward on the taut rope 2 until the person 4 is in substantially a standing position. The upward movement of the person 4 will release weight from links 40 and 5A so the upright position, as shown in FIG. 14, may be attained, then, by exerting weight on lever 37, the rope is again gripped by cam 38, as shown in FIG. 5, which will enable the ascending device 50, comprising leg members 56 and 64, to be moved upward. The leg members are coupled together by spaced apart plates 72 and 74, which plates are rigidly attached to leg member 64 by bolts 76 and which plate member 72 and plate member 74 are pivotally attached, by a removable pivot pin 58, to leg member 56, to enclose rope 2 therebetween, as will best be seen in FIGS. 17 and 19.

By removing pin 58 from apertures in the respective plates 72 and 74 and from the aperture in leg member 56, the rope 2 may be removed from the ascending device 50 at any point intermediate the length of the rope 2, or it may be inserted thereonto without cutting or splicing the rope, by the simple removal and reinsertion of one pin.

The leg member 56 has a portion 80 extending thereabove which portion has a cam 78 secured thereto by bolt 82 to engage plate 72 to limit the lateral movement of leg member 56 with respect to the leg member 64, as will best be seen in FIG. 20.

The leg member 56 has an out-turned member 84 on which the foot 52 rest, with an upturned end 86 through which strap 88 passed and over the top of foot 52 and engage loop member 90 to securely hold the foot 52 in place. Likewise, the leg member 64 has an out-turned member 92 with an up-turned end 94 thereon, which end 94 is apertured to receive a strap 96 therethrough and through a loop 98 on the out-turned member 92 to maintain the foot 54 in clamped relation with respect thereto.

The clamping of the rope between cams 60 and 62, by lateral movement of the feet 52 and 54, of the person within the harness 6, and by alternately raising the body to an erect position together with releasing action of cam 37 through movement of shoulder strap 6A on the device 1. The feet 52 and 54 may then be raised by moving them outward to the position shown in FIG. 15, with the body assuming a squatting position, as shown in FIG. 16, repetition of the operation hereinbefore set out is had, so as to enable the ascent on rope 2.

The harness 6 is provided with a strap 6A which strap is primarily used in the ascent mode to free the locking action of cam brake 30 and pulls the device 1 upward.

When changing from ascending to descending mode, while the person 4 is suspended from rope 2, the reverse of the above procedure is followed. The person 4 opens the foot actuated rope clamping device 50, which releases rope 2 below locking cam 30. Then the person threads the rope 2 through device 1 as shown in FIGS. 6 through 13. The person 4 then lifts the legs and locks the foot actuated rope clamping device 50 onto rope 2 and transfers weight to clamping device 50. While the person 4 is standing with weight on the device 50 with the rope 2 passing therethrough, the person disengages loop 5A from link 40 and allows loop 5A to drop back and be held by link 5. The person then assumes a squatting position until link 5A is tightened on link 5. The person 4 is in descent mode as soon as the foot actuated rope clamping device 50 is opened to release the grip on the rope.

What is claimed is:

1. A device for longitudinal movement on a rope, which rope is anchored against downward movement, and extends downwardly from the anchor member, which device comprises;
   a. a rope engaging member adapted to support a load, when said rope engaging member is engaged on a rope,
   b. a load support member attached to said rope engaging member,
   c. means operable to lessen the friction between the rope engaging member and the rope, to permit the rope engaging member to be moved relative to the rope, and
   d. brake means is provided to hold said rope engaging member in static relation intermediate the length of the rope while a person may remove loops from said rope engaging member or add loops to said rope engaging member while suspended on the rope, without passing the ends of the rope therethrough.

2. A device for longitudinal movement on a rope, as defined in claim 1; wherein
   a. said rope engaging member has a plurality of spaced apart plates,
   b. said spaced apart plates having spaced apart, cylindrical members extending therebetween and secured thereto to form friction members,
   c. certain of said cylindrical friction members receive at least a partial wrap of the rope therearound,
   d. other of said cylindrical friction members receive at least a full wrap of rope therearound,
   e. the rope being insertable into the rope engaging members between said cylindrical friction members, intermediate the ends of the rope,
   f. said rope extending below said rope engaging member is adapted to be manually relieved of tension to permit downward movement of the rope engaging member and the load support member attached thereto,
   g. a guard rod secured to one of said plates and extending in abridging relation over another of said plates, and
   h. said guard rod has the distal end thereof spaced from another of said plates for lateral passage of the rope therebetween so as to guide the rope extending therebelow in guided relation with respect to said rope engaging member.

3. A device for longitudinal movement on a rope, as defined in claim 2; wherein
   a. a guard rod is secured to one of said plates and extends in abridging relation over another of said plates, and
   b. said guard rod has the distal end thereof spaced from another of said plates for lateral passage of the rope therebetween so as to guide the rope extending therebelow in guided relation with respect to said rope engaging member.

4. A device for longitudinal movement on a rope, as defined in claim 1; wherein
   a. said rope engaging member has a plurality of spaced apart plates,
      1. spaced apart, cylindrical friction members secured to and extending between said plurality of spaced apart plates,
   b. said rope engaging member adapted to have said plurality of plates spaced apart sufficiently to receive a rope therebetween,
      1. at least one of said plates being apertured, near one end thereof, to receive a member to support the load,
      2. said cylindrical friction members are spaced apart to form openings therebetween to receive a doubled rope therethrough,
   c. certain of said cylindrical members receive at least a partial wrap of rope therearound,
   d. other of said cylindrical friction members receive at least a full wrap of rope therearound,
   e. the rope being insertable into said rope engaging member in doubled relation between certain of said cylindrical friction members, intermediate the ends of the rope,
   f. other of said spaced apart plates having outwardly extending end portions for passage of rope thereover,
      1. the rope being passed in doubled relation between said cylindrical friction members and looped over the outwardly extending end portions so that each cylindrical friction member will have a partial wrap or a full wrap of rope therearound,
   g. said rope extending below said rope engaging member adapted to be manually relieved of tension to permit downward movement of the rope engaging member and the load support member attached thereto, and
   h. said load support member being connected to at least one of the apertured ends of one of said plates to support the load.

5. A device for longitudinal movement on a rope, as defined in claim 4; wherein
   a. a load receiving harness is secured to the lower, apertured end of at least one of said plates to support the load therefrom.

6. A device for longitudinal movement on a rope by a person, as defined in claim 1; wherein
   a. brake means is provided to hold said rope engaging member in static relation intermediate the length of the rope while a person may remove loops from said rope engaging member or add loops to said rope engaging member while

suspended on the rope without passing the rope therethrough.

7. A device for longitudinal movement on a rope by a person, as defined in claim 1; wherein

a. said rope engaging member has spaced apart side members and at least two spaced apart members connecting said side members, which members are spaced apart sufficiently to enable the passing of a doubled rope therebetween and between said side members, intermediate the ends of the rope,

b. said side members extending outward from said connecting members to enable a loop of the doubled rope to be passed thereover one or more times.

c. said load support member being attachably secured to at least one of said side members,

d. a second rope engaging member which includes two apertured pivot levers,

e. said second rope engaging member having a removable pivot pin therein, said removable pivot pin being adapted to be removed from said second rope engaging member for insertion of rope therebetween intermediate the ends of the rope,

f. said pivot levers, which are pivotally connected together, are adapted to be attached to the lower appendages of a person to enable the levers to be moved laterally by the lower appendages of the person thereby to selectively engage and disengage the rope to enable ascent on said rope, and

g. said rope engaging member adapted to support a load while ascending the rope and said device adapted to be changed from an ascending to a descending device by shifting the load support member from the brake of the load descending device to one of the side members of the load descending device after the loops of the rope have been properly fitted on the friction members and the lever members, attached to the appendages, have been disengaged from the rope, which acts may be performed while suspended on the rope.

8. A device for longitudinal movement on a tensioned rope, which rope is fixedly anchored, near its upper end, to an anchor member, which device comprises;

a. a rope engaging member comprising three elongated parallel plates arranged in spaced apart, side by side, relation, one said outer plate and said intermediate plate forming a first pair of plates, the other of said outer plates and said intermediate plate forming a second pair of plates,

b. a first pair of rounded, non-rotatable rope engaging frictional members extending between and being secured to said first pair of plates to enable a doubled rope to be passed therebetween, intermediate the ends thereof, to form a first loop,

c. a second pair of rounded, non-rotatable rope engaging friction members extending between and being secured to said second pair of plates,

1. the loop of the doubled rope adapted to pass over one of said plates of said second pair of plates and to pass around said second pair of rounded, non-rotatable rope engaging friction members, and

d. a member for supporting a load secured to the lower end of at least one of said elongated plates so upon release of tension on the rope, the rope will move around the rounded, non-rotatable rope engaging friction members to enable the controlled lowering of the load, by regulating the tension on the lower end of the rope.

9. A device for longitudinal movement on a load tensioned rope, as defined in claim 8; wherein

a. said second pair of rounded, non-rotatable, rope engaging friction members, which extend between said second pair of plates are spaced apart a sufficient distance that a doubled rope may be passed therebetween to form a second loop,

1. said second loop being adapted to pass over the same plate as the first loop so as to form an additional wrap of rope around said second pair of rounded, non-rotatable, rope engaging friction members to increase the friction to enable the controlled lowering of a greater load.

10. A device for longitudinal movement on a load tensioned rope, as defined in claim 9; wherein

a. said second pair of rounded, non-rotatable, rope engaging friction members are of greater length than said first pair of rounded, non-rotatable, rope engaging friction members so as to receive a plurality of wraps of rope therearound.

11. A device for longitudinal movement on a load tensioned rope, as defined in claim 9; wherein

a. the outer plate of said second pair of elongated, peralled plates is of lesser length than the other of said plates and has each each end thereof extending outwardly from the adjacent, rounded, non-rotatable rope engaging, friction member, to enable the rope to be passed thereover.

12. A device for longitudinal movement on a rope, as defined in claim 8; wherein

a. said rope engaging friction member is of unitary construction.

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