

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

A Clip for Use with Ropes

We, TRICOUNT S.A., a Swiss Company, of Boulevard Jaques-Dalcroze 2, Geneva, Switzerland; and ROBERT GENGEBACH, a Swiss citizen, of rue de Rive 68, Nyon, Vaud, Switzerland, do hereby declare the invention for which we pray that a patent may be granted to us and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to clips for use with ropes, in particular rock- and mountain-climbing ropes.

Such a clip is known which comprises two wedging elements of V form connected to one another by a short arm, the limbs of said V wedging being directed in opposite directions and being arranged in two parallel planes at a short distance from one another with the rope passing between said elements and forming a Z, one limb of each wedging element being longer than the other.

Such a clip has, however, not given full satisfaction and from the safety point of view it did not fulfil the required conditions particularly in mountain-climbing where the life of the user is at stake. In particular the rope has a tendency to separate from the device as a result of the movements of the user. The angles of the blends of the Z formed by the rope are thus modified and the rope has a tendency to slide in the wedging members.

The present invention aims at avoiding these disadvantages and the clip according to the invention is characterized in that the longer limb of one of said two wedging elements has a hooking member provided with a rope engaging safety lug, and the longer limb of the other of the said wedging elements has a hook also for engaging the rope.

The accompanying drawing shows, by way of example, one embodiment of the clip of the present invention and in these drawings:—

Fig. 1 is a perspective view of the clip. 45

Fig. 2 to 4 show the manner of employing the clip on a rope.

The clip shown comprises two oppositely extending V-shaped wedging elements 4, 4' formed from a steel rod or bar 1 of circular section, for example from 0.0027 to 0.0031 inch, connected by a short arm 3, these elements being provided to grip a rope 9 located in the respective Vs. 50

The one limb 2 of the V-element 4 is longer than the other and is provided, on the side opposite so that of the shorter limb of that wedging element, with an integral ring 5. A safety lug 6, constituted by a right-angled bent piece of the same section as the bar 1, is in one piece with the ring 5. To this end, one end of the said bent piece is welded at 7 to said ring 5 to extend inclined towards the short arm 3. 55

The end of the longer limb of the wedging element 4' is bent round as a hook 8 in a plane perpendicular to the plane of the element 4', said hook being directed inwardly of this element. 60

Fig. 2 shows the initial position of the clip described in the course of being fastened to a mountain-climbing rope 9 the upper end of which is assumed to be secured to a fixed point and along which the climber must ascend. To this end, two clips, such as the one described, are engaged with the rope and serve as attachment points, movable along the rope as will be described hereafter, for stirrups (not shown) in which are engaged the feet of the climber, a small rope connecting each stirrup to the ring 5 of the corresponding clip. A left hand clip differs from a right hand clip solely in the position of the safety lug 6 and of the blocking hook 8 which are both turned through 180°. 65 70 75 80 85

A snap-hook 10 is fixed in the hooking ring 5 and serves as a handhold for the left hand of the climber. The stirrup rope for the left

foot (not shown) may be secured to the snap-hook 10 or to the ring 5.

5 Fig. 3 shows an intermediate position of the clip which has been swung in the direction of the arrow A by exerting a pull on the snap-hook 10. The rope 9 is folded into Z-form by being wedged in the V-angles of the elements 4, 4'.

10 Finally, in Fig. 4, the clip is in the fastened position on the rope 9 with the ring 5 directed downwardly, the rope 9 passing above in the hook 8 and below behind the safety lug 6. In this position, the left foot of the climber may bear on its stirrup hooked to the snap-hook 10 or to the ring 5, the right foot may then be freely moved to permit of bringing the right-hand clip to which its stirrup is hooked, above the left-hand clip. The climber thus moves alternately the two clips until he reaches the top of the rope.

15 The safety lug 6, instead of being constituted by a bent piece, may have any other shape in particular, a T shape.

20 The device described may also serve to hold a rope, the ring 5 being then connected to a fixed point.

25 The leg of the wedging element carrying the hooking member and constituting the longer limb of that wedging element, the short arm connecting said two wedging elements and the longer limb of the other wedging element are constituted by a single steel bar of circular section bent to the desired shape, and the two other shorter limbs of the wedging elements are also formed by a single steel bar of the same section, welded into said short arm. Furthermore, instead of being manufactured in several assembled pieces, the device described could be formed of a single piece, for example by stamping or in any other manner following the development of the technical art.

30 Although the clip described is specially provided for rock- and mountain-climbing, it is obvious that it could be employed in any other sporting or professional field where it is a question, for example, of suspending or fastening a heavy object to a rope, or of fastening a rope to a fixed point, or again as a cable or rope clamp, specially in navigation and in particular on sailing boats or campsites.

35 The clip described has the advantage of being of reduced bulkiness and of small

weight in comparison with known devices. Further, it permits of utilizing ropes of different diameters and this without causing wear of said ropes. 55

WHAT WE CLAIM IS:—

1. A clip for use with ropes, especially for mountain climbing ropes, comprising two wedging elements of V form connected to one another by a short arm, the limbs of said V wedging elements being directed in opposite directions and being arranged in two parallel planes at a short distance from one another with the rope passing between said elements and forming a Z, one limb of each wedging element being longer than the other, characterized in that the longer limb of one of said two wedging elements has a hooking member provided with a rope engaging safety lug, and the longer limb of the other of the said wedging elements has a hook also for engaging the rope. 60 65 70 75

2. A clip as claimed in claim 1, in which the hooking member is constituted by a ring integral with said limb and the safety lug is a bent piece welded at one end to said ring and extending inclined towards the said short arm, the hook being in a plane perpendicular to the plane of the adjacent V-shaped wedging element. 80

3. A clip as claimed in claim 1 or claim 2, in which the leg of the wedging element carrying the hooking member and constituting the longer limb of that wedging element, the short arm connecting said two wedging elements and the longer limb of the other wedging element are constituted by a single steel bar of circular section bent to the desired shape, and the two other shorter limbs of the wedging elements are also formed by a single steel bar of the same section, welded onto said short arm. 85 90 95

4. A clip for fastening to a rope, constructed, arranged and adapted to operate substantially as hereinbefore described with reference to the accompanying drawings.

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Fig. 1.

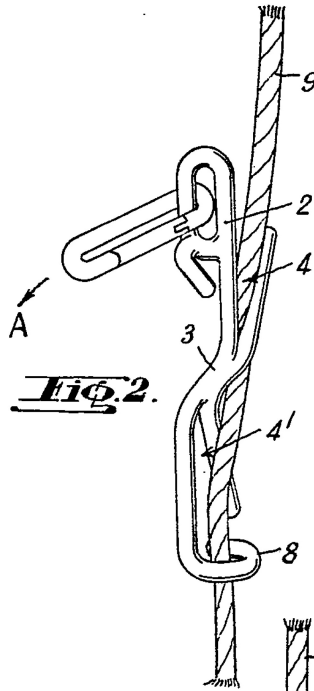
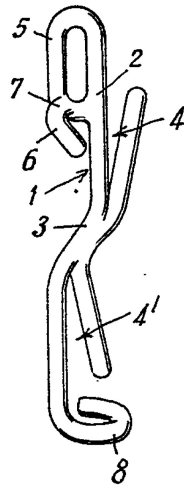


Fig. 2.

Fig. 3.

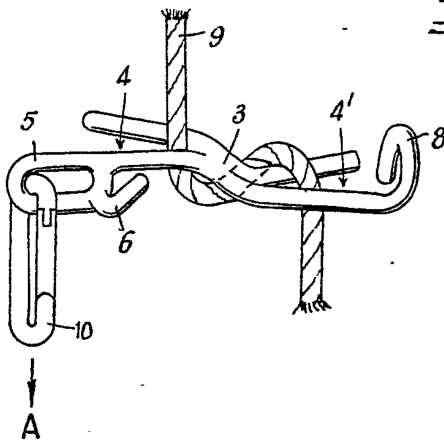


Fig. 4.

