Oct. 28, 1952 E. T. CHAMBERLAIN, JR 2,615,402

CABLE GRIP

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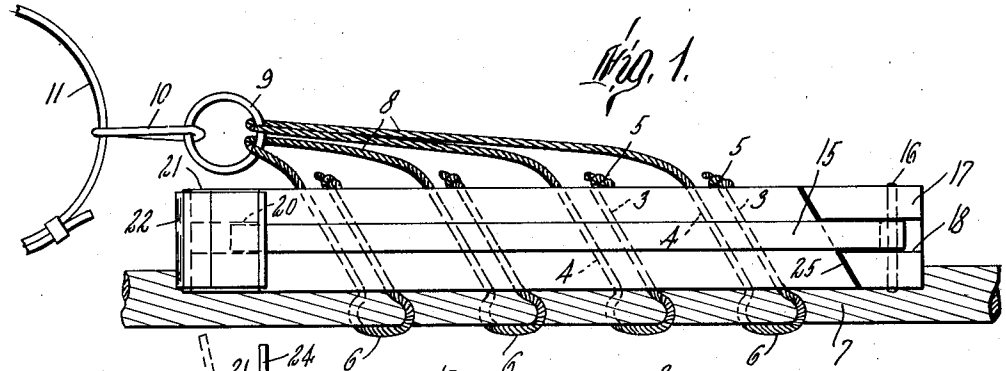


Fig. 1.

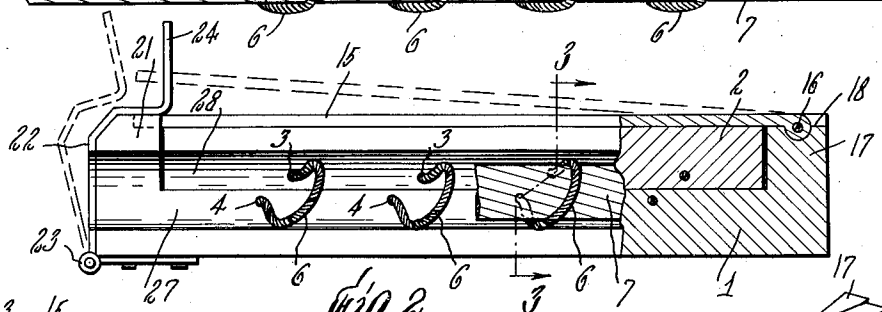


Fig. 2.

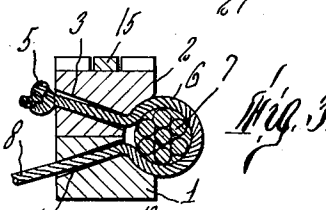


Fig. 3.

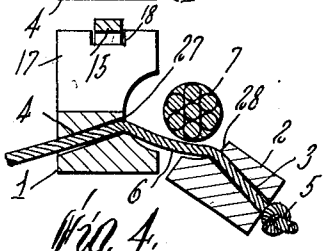


Fig. 4.

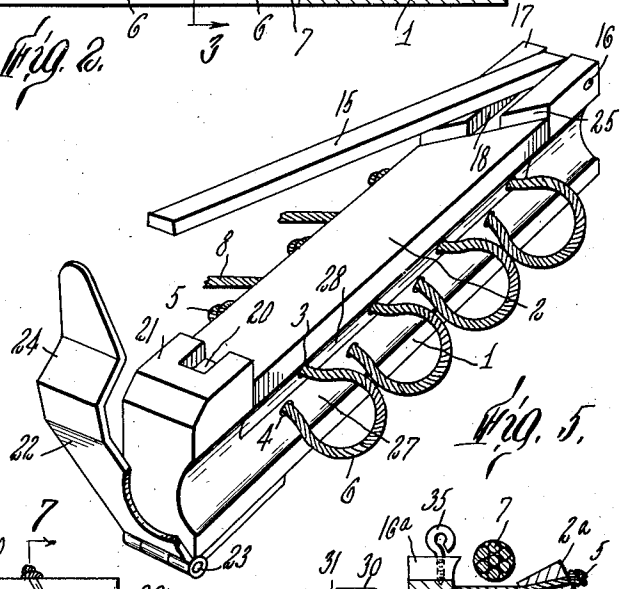


Fig. 5.

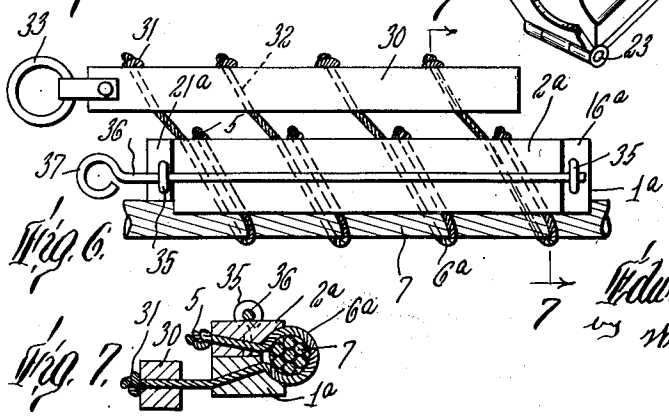


Fig. 6.

Fig. 7.

Fig. 8.

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CABLE GRIP

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6 Claims. (Cl. 104—202)

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This invention relates to cable grips and has been developed more particularly to meet the requirements and conditions presented to a skier in gripping and releasing the cable of a ski tow. Such mechanism must be capable of a firm grip and be easily and quickly releasable, must be unaffected in its operation by the presence of snow or ice, must not injure the tow rope or cable, and must be capable of withstanding considerable stress and abuse.

To these ends the gripping effort upon the tow rope or cable is produced, in accordance with this invention, preferably, by a plurality of rope loops arranged to grip the cable, and the more tenaciously the heavier the stress exerted thereon, the loops being carried by a pair of blocks maintained in assembled relation during use but readily disconnected when desired to release the grip by opening the loops.

For a complete understanding of this invention, reference may be had to the accompanying drawings in which

Figure 1 is a top plan view of a grip embodying the invention, shown in gripping position and connected to a belt to be worn by a skier.

Figure 2 is a side elevation partly broken away and in section of the same.

Figure 3 is a sectional view on line 3—3 of Figure 2.

Figure 4 is a sectional view similar to Figure 3 but showing the grip released.

Figure 5 is a perspective view of the grip showing the parts in releasing position but with the blocks in assembled position ready to be either released or locked.

Figure 6 is a view similar to Figure 1, but showing a modification.

Figure 7 is a sectional view on line 7—7 of Figure 6.

Figure 8 is a sectional view similar to Figure 7, but showing the grip parts released from the cable.

Referring first to the construction shown in Figures 1 to 5, at 1 and 2 are shown a pair of blocks. One of these blocks, as 2, has a series of transverse holes at 3 therethrough which as shown are arranged at an inclination to the transverse dimensions of the blocks. Through each of the holes 3 there is passed one end of a strand which may be a rope or cord and provided at its extreme end with a knot 5 which will serve to anchor each end of the strand in the block 2.

An intermediate portion of each strand passes through a perforation 4 through the block 1, the

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perforations 3 and 4, when the blocks are in the superposed relationship shown in Figures 1, 2 and 3, being substantially parallel to each other. Between the blocks 2 and 4 there is left lengths of strand material at 6 each of which may form a loop engaging substantially entirely around the tow cable or rope 7 as shown in Figure 3, or by displacing the block 2 into the position shown in Figure 4, the cable may be released from the strand material, the loops then being open.

In gripping position the block 2 overlies the block 1 as shown in Figures 2 and 3 and when the blocks 1 and 2 are held in this position, the cable may be gripped by tightening the loops 6 therearound.

The intermediate portion 8 of each strand passes around the equalizing ring 9, as shown in Figure 1, and this ring may be connected as through a suitable link 10 to a belt 11 arranged to be worn by the skier.

Releasable key means are shown for holding the blocks 1 and 2 in superposed relation as shown in Figure 3, permitting the loop portions to grip the cable. As shown in Figures 1 to 5, this retaining means comprises a bar 15 hinged on a cross pin 16 in an upward extension 17 at one end of the block 1, this bar riding in a slot 18 through this upward extension. It may be rocked downwardly into the full line position shown in Figure 2 and be retained in such position. In Figures 1, 2 and 5 it will be seen that the free end of the locking bar 15 can enter a slot 20 in a portion 21 upstanding from the block 1 and when it has so entered, it overlies the block 2 and prevents it from being lifted out of position in such a way as to open up the loops 6.

Means for releasably holding the retaining bar 15 in locking position comprises the hinged latch member 22 which is secured to one end of the block 1 as by the hinge 23. When in locking position, a portion 24 of this latch extends over the upper end of the member 21 and holds the end of the retaining bar 15 within the slot or recess 20.

To facilitate the entrance or escape of the block 2 from the space between the members 17 and 21, one end of the recess formed thereby and into which the block 2 engages may be formed sharply beveled as at 25. The inner edges of the blocks 1 and 2 where they make contact with the loop 6 are arranged concaved as shown, the concavity 27 of the block 1 extending for the full length thereof, and through the lower portions of the parts 17 and 21, and the block 2 is provided with a mating groove 28. Both portions

27 and 28 provide backings for a portion of the loops 6, pull exerted on the intermediate portions 8 of the strands pulling the loop 6 tightly around the cable 7 and pulling the cable tightly into the recesses 27 and 28, which engage with the outer faces of the loops 6. Thus any drag exerted by the wearer of the belt when the gripper is in gripping engagement with the cable will only serve to tighten the loops 6 tighter about the cable and increase the gripping action, while the engagement of the intermediate portions of the gripping strands with the ring 9 tends to equalize the pull exerted by the two loops 6 of each strand. As shown there are four strands, each one having two loops passing about the cable 7 and the intermediate portion of each engaging around the ring 9 so that the pressure is substantially equalized between the loops of the same strand and between the loops of the two strands which have been shown herein. It is, of course, evident that more or less than four loops could be employed where found desirable.

In operation the skier associates the blocks around the cable 7 by placing the block 2 in proper position on the block 1 with the various strand loops engaging about the ski tow cable and while in such position the latch bar 15 is brought down into position to prevent the lifting of the block 2 and the release latch 22 is pushed thereover into the full line position shown in Figure 2. The gripper is now gripping the tow cable and the load imparted thereto by the drag of the wearer of the belt 11 acts to tighten the strands about the tow cable, the greater the pull or lag of the skier, the greater being the tenacity of the grip exerted on the tow rope or cable by the strand loops 6. When the skier desires to detach himself from the cable, it is only necessary for him to release the latch 22, moving it from the full to the dotted line position of Figure 2. This releases the bar 15 and permits the block 2 to drop out of its superposed relation to the block 1 as shown in Figure 4, whereupon all gripping on the cable 7 is released.

In Figures 6 to 8 a modification is shown in which the strands which grip the cable are arranged independently of each other, one such strand having a knotted end portion 5 which anchors the strands in one of the blocks, the intermediate portion of the strand passing through the perforation in the other block and itself being anchored in a third block 30, as by the knots 31 at the opposite ends of the strands which pass through the perforations 32 in the block 30. With this arrangement the pull on the block 30, by reason of its ring connection at 33 with the skier's belt, will cause each of the strand materials to take its own load without much reference to the proportions taken by the other strands.

In these views, also, a different type of locking mechanism to retain the blocks in gripping position is illustrated. As there shown, the lower block 1a through which the strand slidably passes is provided with upright end portions 16a and 21a, each having fixed therein a screw eye 35. A locking pin 36 having a hand grip 37 at one end may be inserted through the eyes of the screw eyes 35 and act as a key to prevent the block 2a from being pulled away from the locking position shown in Figure 7 to release position shown in Figure 8. The third block 30 which is attached to the wearer's clothing, as to the belt 11, exerts the pull on the strands which tightens the loops 6a about the cable so long as the key

member 36 is in the position shown in Figure 6. By pulling this member 36 out from the screw eyes 35, the block 2a is released from its locking position so that it may move away from the block 1a and release the cable.

From the foregoing description of certain embodiments of this invention it should be evident to those skilled in the art that various changes and modifications may be made without departing from its spirit or scope.

I claim:

1. A cable grip comprising a pair of blocks, a strand having one end portion fixed to one of said blocks and extending slidingly through the other of said blocks and presenting a loop between said blocks adapted to partly enclose and grip a cable when said blocks are in predetermined relation to each other, means engaging said strand on the opposite side of said other block from said loop for exerting a pull thereon to draw said loop about and grip said cable thereby when said blocks are in said predetermined relation, and means for releasably holding said blocks in said predetermined relation.

2. A cable grip comprising a pair of blocks, a strand having one end portion fixed to one of said blocks and extending slidingly through the other of said blocks and presenting a loop between said blocks adapted to partly enclose and grip a cable when said blocks are in predetermined relation to each other, means engaging said strand on the opposite side of said other block from said loop for exerting a pull thereon to draw said loop about and grip said cable thereby when said blocks are in said predetermined relation, and means for releasably holding said blocks in said predetermined relation, said blocks having recessed side faces with which said loop may engage when said blocks are in said predetermined relation.

3. A cable grip comprising a pair of blocks, a plurality of strands each having one end portion anchored in one of said blocks and having an intermediate portion slidable relative to the other of said blocks, means for releasably holding said blocks in face to face relation with the strands between said blocks forming loops which may engage around a tow cable, a third block to which the other end portions of said strands are engaged, the means for securing the said third block to an article of wearing apparel.

4. A cable grip comprising a pair of blocks, a strand having an end portion anchored in one of said blocks and having an intermediate portion slidably carried by the other of said blocks, one of said blocks having means for locating the other of said blocks in endwise superposed relation thereto with said strand forming a loop between said blocks adapted to enclose and grip a cable, key means engageable with one of said blocks and releasably retaining the other of said blocks in said relation, and means for tightening said loops about the cable.

5. A cable grip comprising a pair of blocks, a strand having an end portion anchored in one of said blocks and having an intermediate portion slidably carried by the other of said blocks, one of said blocks having means for locating the other of said blocks in endwise superposed relation thereto with said strand forming a loop between said blocks adapted to enclose and grip a cable, one of said blocks having a bar pivoted at one end thereto and adapted to overlie and retain the other of said blocks in said relation, a latch member pivoted to said one block for re-

leasably engaging said bar to releasably hold said bar in said retaining position, and means for tightening said loop about the cable.

6. A cable grip comprising a pair of blocks, a strand having an end portion anchored in one of said blocks and having an intermediate portion slidably carried by the other of said blocks, one of said blocks having means for locating the other block in endwise superposed relation thereto with said strand forming a loop between said blocks adapted to enclose and grip a cable, one

of said blocks being longer than the other and having a pair of eye members spaced to permit the other of said blocks to pass therebetween, a key removably engaged in the eyes of said eye members and holding said other block against said one block in said relation, and means for tightening said loop about the cable.

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No references cited.