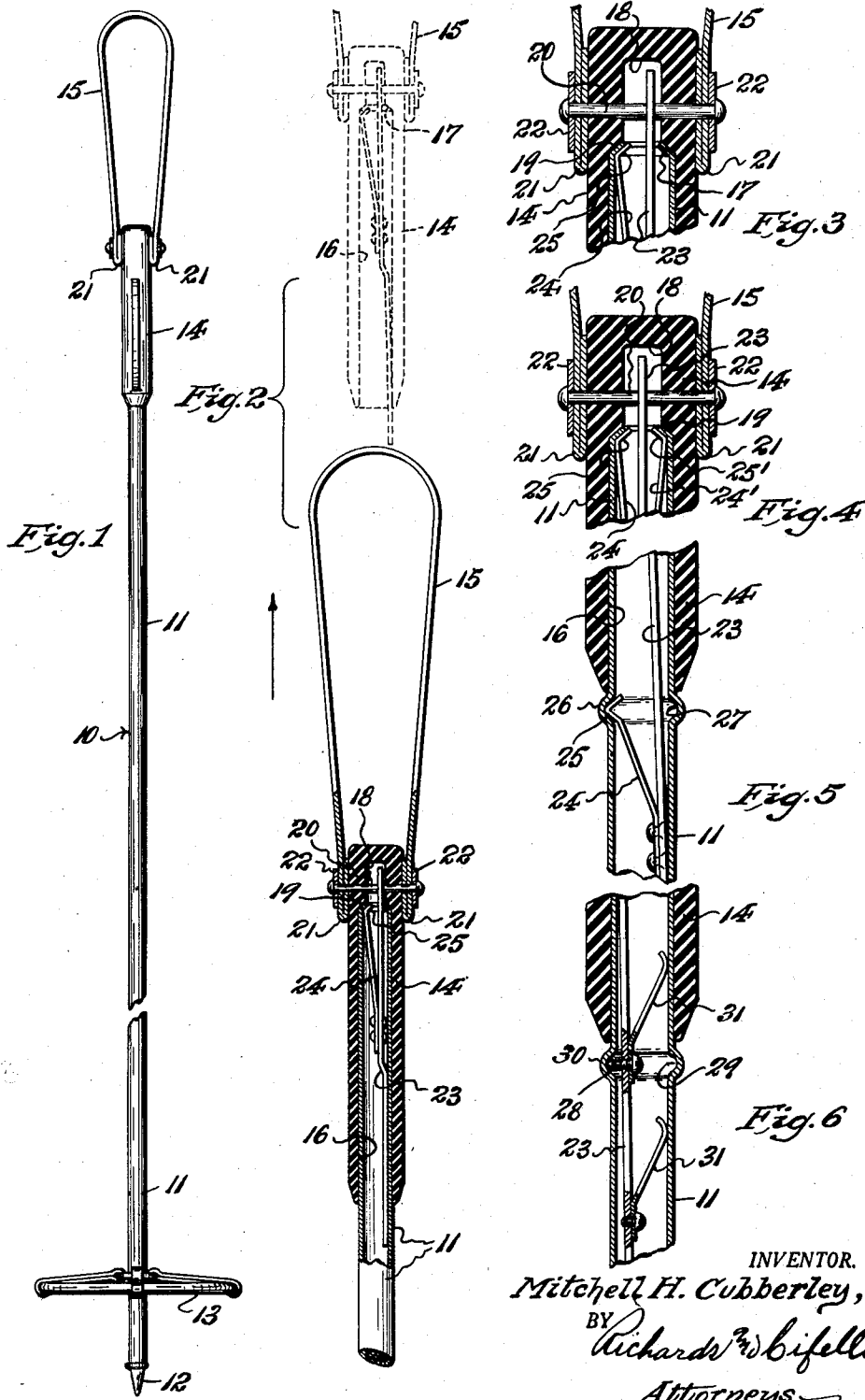


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SAFETY SKI POLE HAVING RELEASABLE HAND GRIP
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SAFETY SKI POLE HAVING RELEASABLE HAND GRIP

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This invention relates to improvements in ski poles, and, more particularly to an improved construction of ski pole which provides a safety factor in use.

Ski poles, as heretofore known and used, are provided with hand grips, including wrist embracing loops, which are affixed to the pole shaft so as to be non-separable therefrom in use. In use by skiers of such heretofore known constructions of ski poles, during swift downward descent over a ski trail or other course, it can, and frequently does, happen that the basket of the ski pole may catch against some obstruction bordering or projecting from the surface of the trail or course traversed by the skier. If this occurs, since the ski pole is anchored to the wrist of the skier by the wrist loop of the pole hand grip, the pole can not be disengaged from the skier's hand and arm, with the result that a sudden pulling stress is exercised by the ski pole. Such pulling stress may well result in so throwing the swiftly moving skier off balance that a fall is caused, with risk of serious injury to the skier.

Having the above in view, it is an object of this invention to provide a novel construction of safety ski pole in which the hand grip, with its wrist loop, will quickly detach itself from the pole shaft, in the event of application of an excessive pulling stress or strain to the ski pole in use, thereby preventing transmission of off-balancing back-pulling force to the swiftly moving skier, and thus avoiding risk of occurrence of an injurious fall by the latter.

The invention has for a further object to provide an improved safety ski pole wherein the hand grip, with its wrist loop, is releasably latched to the ski pole shaft in such manner as to quickly disengage itself therefrom, in the event the ski pole is subjected, from any cause, to sudden excessive pulling strain or stress, and yet assuring that said hand grip is so firmly attached to the ski pole that normal manipulation of the latter by the hand grip in use is not impaired.

The invention has for a further object to provide the hand grip and shaft of a ski pole with cooperative coupling means for normally maintaining the same in operative assembled relation; said coupling means including resilient detent means, operable under excessive pulling strain or stress exercised upon the ski pole, to yield to such strain or stress, whereby to automatically release the coupling means so that the hand grip will quickly disengage the ski pole shaft and separate therefrom, without transmitting excessive pulling strain or stress to the person of the moving skier.

The above and other objects of this invention will become apparent from a reading of the following description of illustrative embodiments thereof which are shown in the accompanying drawings.

In said drawings:

Fig. 1 is an elevational view of a ski pole embodying the improvements according to this invention; Fig. 2 is a fragmentary longitudinal sectional view, drawn on an enlarged scale, and showing by solid lines the hand grip as releasably coupled to the shaft of the ski pole, and by broken lines its detached and separated relation to the latter; and

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Fig. 3 is a further enlarged fragmentary longitudinal sectional view of the engaged coupling means of Fig. 2 by which the hand grip is releasably attached to the ski pole shaft.

Figs. 4, 5 and 6 are fragmentary longitudinal sectional views, respectively showing different modified forms of the coupling means by which the hand grip can be releasably attached to the ski pole shaft.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring first to Figs. 1 to 3 inclusive, the reference character 10 indicates a ski pole comprising a shaft 11 having a spike formation 12 at its lower end. The shaft 11 is provided with the usual transverse basket member 13 suitably affixed thereto. Mounted on the upper end portion of the shaft 11 is a hand grip member 14, which is provided with an upwardly extending wrist loop member 15.

According to this invention, the hand grip member 14 is telescopically engaged over the upper end portion of the ski pole shaft 11, and to receive the latter, the hand grip member is provided with a downwardly open axial bore 16, the internal diameter of which corresponds to the external diameter of said shaft. Preferably, this bore 16 terminates at its upper inner end in an annular stop shoulder 17, which is disposed between said bore and a communicating upwardly closed chamber 18 within the upper end portion of the hand grip member 14. The ski pole shaft 11 preferably comprises a metallic tube, e.g. a steel tube, the upper end of which abuts the stop shoulder 17, when the shaft is inserted into the bore of the hand grip member, thus determining the normal attached position of the hand grip member relative to said shaft.

Extending transversely through the upper end portion of the hand grip member, and diametrically across the chamber 18 thereof, is a cross-pin 20. The wrist loop member 15 is attached to the hand grip member by extension of external end portions of the cross-pin through opposite, preferably folded, end portions 21 of the wrist loop member, which end portions straddle the hand grip member, and through washers 22 which face said end portions; the assembly being secured by riveting the ends of the cross-pin over said washers, or by passing a cotter-pin (not shown) through at least one end of the cross-pin; the latter arrangement facilitating removal of the wrist loop member should replacement thereof be desired.

The hand grip member 14 and ski pole shaft 11 are provided with cooperative means for releasably coupling said hand grip member to the pole shaft in normal attached relation thereto. Said releasable coupling means may be variously formed so long as it essentially comprises a stop or check means and a yieldable detent means engageable therewith, when the hand grip member is disposed upon the pole shaft in normal attached relation thereto.

In Figs. 2 and 3 is shown a preferred embodiment of means for releasably coupling the hand grip member to the ski pole shaft. The stop or check means of this coupling is provided by an inturned annular flange formed in connection with the upper extremity of the pole shaft 11, and which provides an internal stop or check abutment 19 adapted to be engaged by the yieldable detent means of the coupling. The yieldable detent means comprises a suspension bar 23, through the upper end portion of which the cross-pin 20 passes, whereby to support the suspension bar in depending suspension therefrom for downward extension through the bore 16 of the hand grip member 14, and so that its lower free end portion projects somewhat beyond the lower open end of said hand grip member. Mounted on at least one face or side of the suspension bar 23 is an upwardly and outwardly inclined yieldable detent member 24, which terminates at

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its upper free end in a latch nosing 25. This latch nosing, when the hand grip member is in place upon the pole shaft, is adapted to engage beneath the stop abutment or flange 19 of latter, thereby releasably but yieldably coupling the hand grip member to the pole shaft. Preferably, the detent member 24 is provided in the form of a resilient leaf spring, the lower end of which is affixed to the suspension bar 23 by riveting or other suitable fastening means.

To mount the hand grip member 14 on the ski pole shaft 11, the lower projecting end of the suspension bar 23 is inserted in the upper open end of the pole shaft, and then, upon axially aligning the bore 16 of the hand grip member with said shaft, the hand grip member can be slid down over the latter until stopped by abutment of the stop shoulder 17 against the upper end of said shaft. As the hand grip member is moved into such stopped position relative to the pole shaft, the resilient detent member 24 yields to passage of its latch nosing 25 over the stop or check abutment 19, so that said nosing engages beneath the latter, thus releasably and yieldably latching the hand grip member to the pole shaft against disengagement therefrom except under abnormal conditions.

When the hand grip member is thus normally attached to the pole shaft, the tension of the resilient detent member 24 backs the suspension bar 23 against the internal side of the pole shaft (see Fig. 2), while at the same time exerting thrust in the opposite direction, whereby to maintain the latch nosing 25 in holding engagement with the stop or check abutment 19. The latch nosing readily yields to down passing movement relative to the stop or check abutment 19, but offers considerable resistance to off sliding movement of the hand grip member from its normal attached relation to the ski pole shaft 11. Since the skier exercises but a down thrust upon the ski pole in use thereof, there is no tendency of the hand grip to be released from the pole shaft under normal conditions of use.

When in use by the skier, should the basket member 13 of the ski pole catch on a projection or obstruction, the arrested movement thereof exerts an excessive pulling strain upon the ski pole, which is sufficient to spring the latch nosing 25 of the detent member 24 upwardly over the stop or check abutment 19 and outwardly from the pole shaft, thus permitting said pole shaft to withdraw from the hand grip member which is bound or tied to the skier's hand by the wrist loop member 15. The skier is thereupon released from the abnormal pulling stress or strain exercised by the arrested ski pole, so that throwing of the skier off balance with risk of injurious fall is avoided.

Referring to Fig. 4 a modification of the releasable coupling means is shown thereby. This construction is similar to that above described except that in addition to the resilient detent member 24 and its latch nosing 25 mounted on one side of the suspension bar 23, a second detent member 24¹ with latch nosing 25¹ is mounted on the opposite side of said suspension bar 23.

Another modified form of releasable coupling means is shown in Fig. 5. This construction comprises a suspension bar 23 upon which is mounted the resilient detent member 24 and its latch nosing 25, but instead of the stop or check abutment or flange 19 of the previously described constructions, the stop means of the coupling comprises an annular hollow bead 26 pressed out of the tubular pole shaft 11 at a point adjacently below the hand grip member 14, when the latter occupies normal attached relation to the pole shaft. The detent member 24 is so positioned on the suspension bar 23 that its nosing 25 will be releasably engaged in the internal groove or channel 27 of the bead 26, when the hand grip is operatively assembled with the pole shaft.

Referring to Fig. 6, still another modified form of the releasable coupling means is shown. In this arrangement, the suspension bar 23 is provided with a latch stud

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or screw 28, which projects from one face thereof toward the wall of the pole shaft 11, and so as to engage in an internal groove or channel 29 of an annular hollow bead 30 provided on the pole shaft adjacently below the lower end of the hand grip member 14, when the latter is operatively assembled with said pole shaft. The suspension bar 23 is provided, on its opposite side or face, with one or more leaf springs 31, which thrust against the opposing wall of the pole shaft, whereby to yieldably thrust the latch stud or screw 28 into normal holding engagement with the internal groove or channel 29 of the shaft bead 30.

All of the above described modified forms of coupling means will function substantially in the manner hereinabove described, whereby to release the hand grip member from the pole shaft, in the event the latter is subjected to excessive down or out pulling stress.

While I have shown and described the releasable detent means for normally coupling the hand grip member to the staff, in preferable embodiments thereof, wherein the detent means is mounted within the hand grip member, it will be obvious that the detent means could be externally mounted on either the hand grip member or staff to engage an opposed stop means on either the staff or the hand grip member as the case may be. It will also be realized that the specific form of the resilient detent means and the stop means with which it cooperates, may be widely varied so long as the essential releasable coupling of the hand grip member to the staff is attained.

Having now described my invention, I claim:

1. A ski pole comprising a tubular staff, a hand grip member having an axial bore to receive said staff, a cross-pin extending across the hand grip member and its bore, a wrist loop member secured by said cross-pin to extend from the hand grip member, means to releasably couple the hand grip member to the staff comprising a suspension bar depending from the cross-pin within the bore of the hand grip member and adapted to enter the tubular shaft when the hand grip member is mounted thereon, at least one upwardly extending resilient detent member affixed by its lower end to said suspension bar and provided at its upper free end with a latch nosing, and said staff having stationary stop means adapted to be releasably engaged by the latch nosing of said resilient detent member.

2. A ski pole according to claim 1, wherein the stop means on the staff comprises at least one internal annular shoulder projecting from the wall of said staff to oppose the latch nosing of the resilient detent member.

3. A ski pole comprising a tubular staff, a hand grip member having an axial bore to receive said staff, the bore of said hand grip member including an internal shoulder adapted to be abutted by the upper end of said staff to determine the operative assembled position of the hand grip member relative to the staff, a cross-pin extending across the hand grip member and its bore, a wrist loop member secured by said cross-pin to extend externally from said hand grip member, means to releasably couple the hand grip member to the staff comprising a suspension bar depending from said cross-pin within the bore of the hand grip member and adapted to enter the tubular staff when the hand grip member is mounted thereon, an upwardly extending resilient detent member affixed by its lower end to said suspension bar and provided at its upper free end with a latch nosing, and the upper end of said staff having an internal annular stop flange adapted to be releasably engaged by the latch nosing of said resilient detent member.

4. A ski pole comprising a tubular shaft, a hand grip member having an axial bore to receive the shaft, a wrist loop member secured to the hand grip member for external extension therefrom, a cross-pin extending across the hand grip member and its bore, means to releasably couple the hand grip member to the staff comprising a suspension bar depending from said cross-pin within the

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bore of the hand grip member and adapted to enter the tubular shaft when the hand grip member is mounted on the latter, and said suspension bar and staff having co-operative means to releasably couple the same together, said means being automatically yieldable to pulling strain applied to the hand grip member relative to the staff, whereby to separate the former from the latter.

5. A ski pole comprising a tubular shaft, a hand grip member having an axial bore to receive the shaft, a wrist loop member secured to the hand grip member for external extension therefrom, a cross-pin extending across the hand grip member and its bore, means to releasably couple the hand grip member to the staff comprising a suspension bar swingably dependent, from said cross-pin within the bore of said hand grip member and adapted to enter the tubular shaft when the hand grip member is mounted on the latter, detent means carried by the suspension bar, said staff having stop means adapted to be engaged by said detent means, and resilient means to yieldably urge the suspension bar in direction to engage said detent means with the stop means of said shaft.

6. A ski pole comprising a tubular shaft, a hand grip

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member having an axial bore to receive the shaft, a wrist loop member secured to the hand grip member for external extension therefrom, a cross-pin extending across the hand grip member and its bore, means to releasably couple the hand grip member to the staff comprising a suspension bar depending from said cross-pin within the bore of the hand grip member and adapted to enter the tubular shaft when the hand grip member is mounted on the latter, an upwardly extending resilient detent member affixed by its lower end to said suspension bar and provided at its upper free end with a latch nosing, and said staff having stationary stop means, adapted to be releasably engaged by the latch nosing of said resilient detent member.

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