

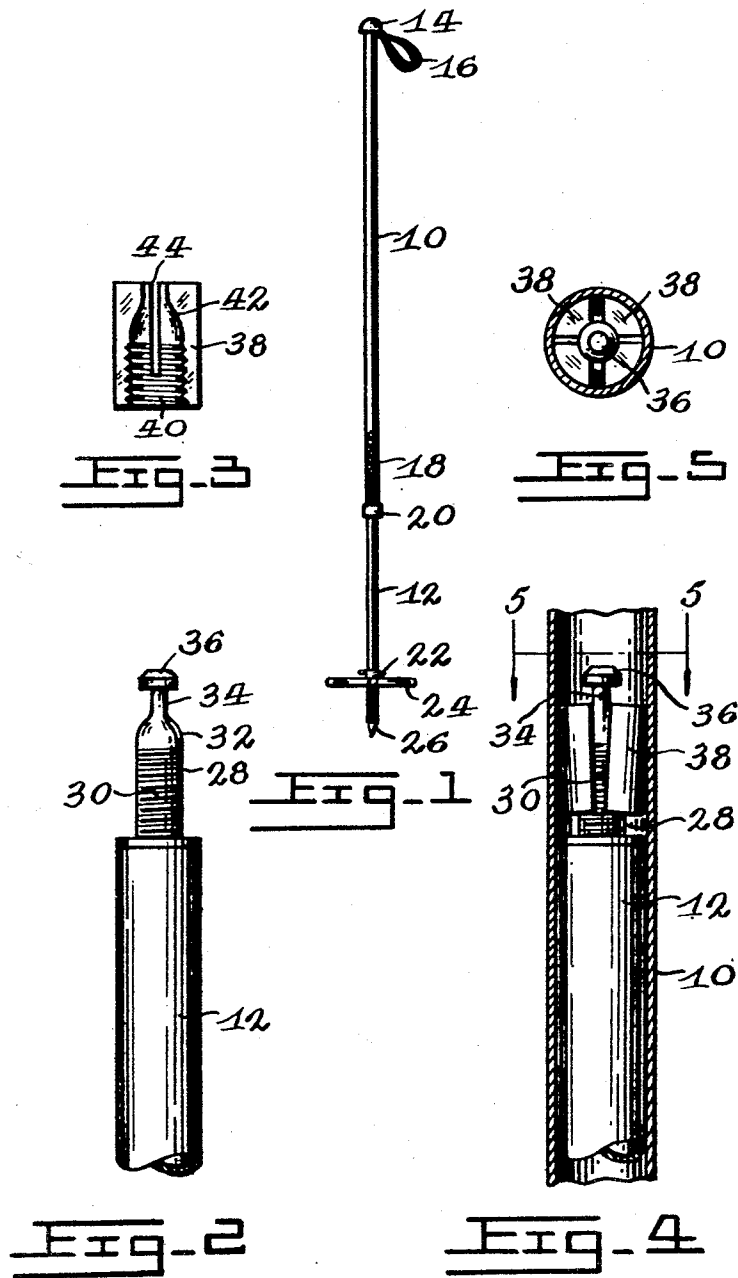
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2,456,205

SKI POLE

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SKI POLE

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Introduction

This invention relates to a ski pole which may be varied in length.

In skiing, the length of a ski pole depends not only upon the stature of the skier, but also on the type of skiing he is doing.

It is therefore necessary for the merchant retailing the ordinary type of ski poles to keep a large stock of different lengths.

Objects

Therefore, it is a primary object of this invention to provide a ski pole which is adjustable to various lengths.

It is a further object of this invention to provide a ski pole which is adjustable in length by a simple means so that a skier may adjust his pole for hill climbing, cross country, or descending hills.

It is a further object of this invention to provide a ski pole having adjustable features which are concealed, thereby keeping its working parts free from snow or ice.

Preferred structure

A preferred structure embodying the objects comprises a ski pole having a pair of tubular members telescopically sliding one over the other, the smaller or inner tube being pointed and carrying a snow ring at its lower extremity, and the larger or outer tube having a grip at its upper end. Fixed on the upper end of the inside tubular member is a threaded head which diminishes in size forming shoulders. A pair of members forming a split collar are threadably engaged with the member which is fixed to the top of the inner tube. Shoulders formed on the inside of the split collar members are adapted to seat themselves on the shoulders of the threaded head when the outside periphery of the split collar member is lightly engaged by the inside of the outer tubing. When the inner tube is rotated in a counter-clockwise direction, the screw threads on the head member which are engaged with the split collar members tend to draw the shoulders of the split collar member against the shoulders of the head member. As this action is continued, the shoulders tend to force the split collar member outwardly against the confines of the outer tube member thereby locking the inner tube in a fixed position relative to the outer tube.

This action of expanding the split collar may take place anywhere within the length of the outer tubular member. By turning the inner member in a clockwise direction in relation to the

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outside tube, the split collar member is lifted in relation to the head member, thus releasing the expanding pressure of the split collar upon the outside tube by the climbing action of the split collar over the shoulders of the head member. The inner tubular member is then released from tight frictional contact with the outer tube and the two tubes are then free for relative movement.

Detailed description

The invention consists of the novel construction and adaptation of an extensible head to a ski pole as described in detail with reference to the accompanying drawings, in which:

Figure 1 is an elevation of a ski pole embodying the invention.

Figure 2 is a fragmentary section of the inner tube showing the construction of the head member.

Figure 3 is an elevation showing the inside of one half of the split collar member.

Figure 4 is a fragmentary section of the outer tubular member showing the split collars in their expanded position fixing the inner tube in relation to the outer tube.

Figure 5 is a section of a ski pole taken on the line 5—5 of Figure 4.

Referring more particularly to the drawings, Figure 1 shows a ski pole embodying the invention and consists of two tubular telescoped members, the outer tube being designated by the figure 10, and the inner tube by the figure 12. Fixed to the upper end of the outer tube 10 is a closure 14 and a conventional wrist ring 16. The lower end of the outer tube 10 is knurled at 18 to facilitate gripping of the pole when adjustment is necessary and a collar 20 having a flange, closely fits over the inner tube 12 to prevent snow or water from entering between the two tubes. On the lower end of the inner tube 12 is a thumb screw 22 which is threadably engaged to a boring which penetrates the tubing. This thumb screw is primarily used as a gripping member in order to turn the inner tube in relation to the outer tube when adjustment of the length of the pole is necessary. A conventional snow ring 24 and a pointed end 26 finish off the lower section of the inner tube 12.

Referring to Figure 2 which shows the upper end of the inner tube 12, a wedging member 28 is fixedly attached to the inner tube member 12. The shank of the wedging member 28 is threaded by screw threads 30 and above the thread portion of the shank the diameter is diminished provid-

ing a shoulder or camming portion 32 above which the shank is continued with a neck or pin 34 of reduced diameter and topped by a head 36. A pair of co-operating jam nuts 38, one of which is illustrated in Figure 3, are adapted to fit over the threaded shank and the shoulder part of the head member. The inside profiles of the nuts 38 are identical to the outside profile of the wedging member below the head 36. The screw threads 40 are adapted to threadable engagement with the screw threads 30 and the shoulders 42 are adapted to seat on the shoulders 32 of the head, so that when the two nuts 38 are held against the shank 28, the neck portion 44 fits over the portion 34 of the wedging member, the shoulders 42 are seated on the shoulders 32 and the threads 40 are in threaded engagement with the threads 30 on the wedging member.

In order to lock the inner tube 12 against longitudinal movement within the outer tube 10, the inner tube is rotated within the outer tube and the frictional contact of the members 38, which are lying comparatively loosely on the wedging member 28 and against the inside walls of the tube 10, causes the two members 38 to be drawn downwardly by the threads 30 meshed with the threads 40. This motion causes the two members 38 to be forced outwardly by the sloping action of the camming portion 32 against the shoulders 42, which causes wedging apart of the nuts 38 and their jamming between the wall of the tube 10 and the wedging member 30.

In order to change the length of the ski pole it is only necessary to rotate the inner tube in the opposite direction, thereby causing the two nuts 38 to resume their position higher up on the shank which releases them from pressure contact with the side walls of the tubing 10, sliding the inner tube within the outer tube to the desired length of the ski pole and then rotating the inner tube so that the nuts 38 are again forced by the shoulder action against the inside walls of the outer tube.

Advantages

The advantages achieved by this construction over that of other types of adjustable ski poles now on the market, are that the locking mechanism is completely enclosed within the ski pole, thereby eliminating any chance of snow or ice packing around the working parts, thus preventing use of the extensible function and also preserving a clean outside to the ski pole, free from obstructions such as set screws and large collar members or holes drilled in the tubing which, as well as greatly decreasing the strength of the pole, will become clogged with ice and snow.

A further advantage of the applicant's construction makes it possible to adjust the pole without removing heavy ski mitts which would

be necessary in the case of changing set screws or adjusting collars.

It will be understood that without departing from the spirit of the invention or the scope of the claims, various modifications may be made in the specific expedients disclosed. The latter are illustrative only and not restrictive, it being desired that only such limitations shall be placed thereon as may be required by the state of the prior art.

The sub-titles used throughout the specification are merely to simplify reference thereto and should otherwise be disregarded.

I claim:

1. A ski pole comprising, inner and outer tubular members in telescopic relationship, the inner member constituting the snow-engaging portion of the pole and being provided at its "lower" end with a snow ring, the outer member constituting the handle portion of the pole and being provided on its "upper" end with a hand grip, the "upper" end of the inner member being provided with an axially projecting wedging member, said wedging member having a screw threaded shank portion and an adjoining camming portion facing the "upper" end of the pole, a pin projecting axially from the head and a camming portion on the pin, a pair of complementary jam nuts each having a threaded bore and an inwardly extending shoulder extending into said bore at one end of the nut, the bore of the nuts being engaged by the threaded shank portion at all times, the threaded shank portion on relative rotation in one direction between the outer and inner member being adapted to screw into the bore of the nuts thereby to force the camming portion in an axial direction into engagement with the shoulders of the jam nuts thereby causing said jam nuts to be forced outwardly against the outer member thereby locking the poles against telescopic axial movement, the head being adapted to limit the axial movement of the jam nuts with respect to the wedging member.

2. A ski pole, according to claim 1, wherein the screw threaded portion is located between the camming portion and the end of the inner tubular member.

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The following references are of record in the file of this patent:

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Certificate of Correction

Patent No. 2,456,205.

December 14, 1948.

JESSE MAGDER

It is hereby certified that errors appear in the printed specification of the above numbered patent requiring correction as follows:

Column 4, line 27, claim 1, for the words "head and a camming portion" read *camming portion and a head*; line 46, claim 2, for "caming" read *camming*;

and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of April, A. D. 1949.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.