

July 14, 1942.

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2,289,818

ADJUSTABLE SKI POLE

Filed July 11, 1941

2 Sheets-Sheet 1

Fig. 1.

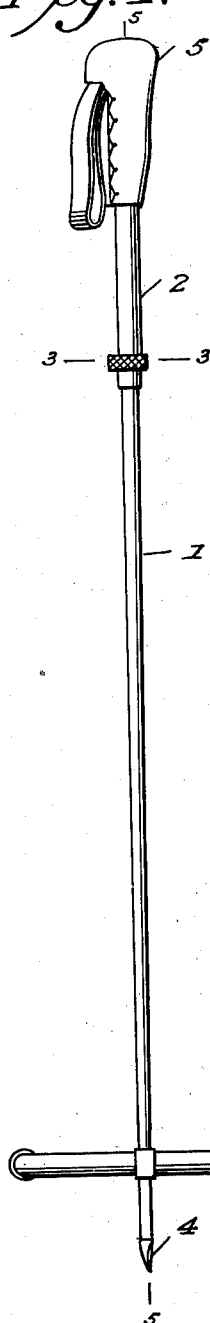


Fig. 2.

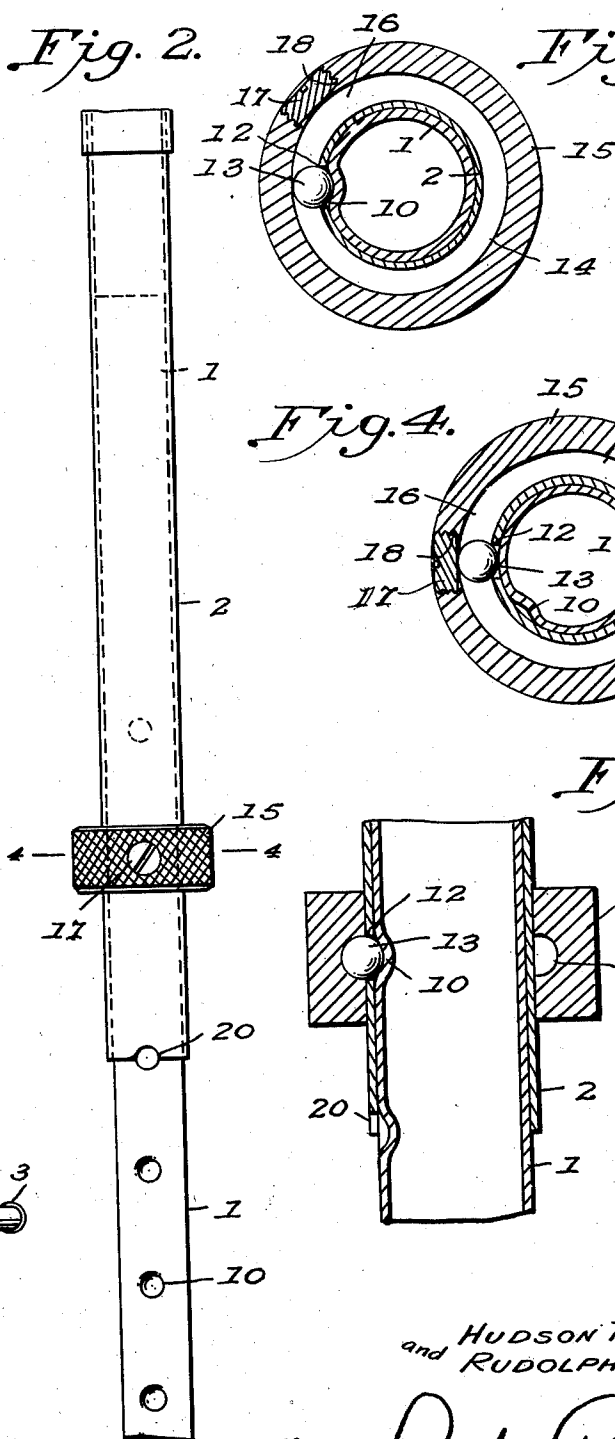


Fig. 3.

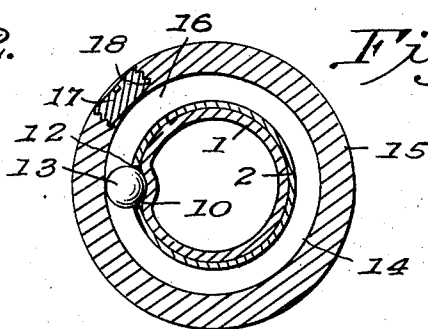


Fig. 4.

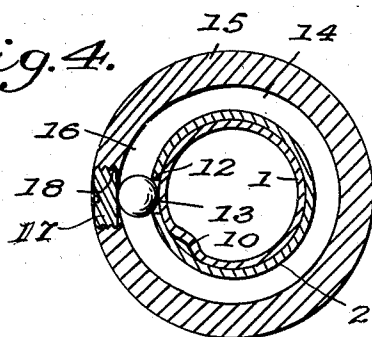
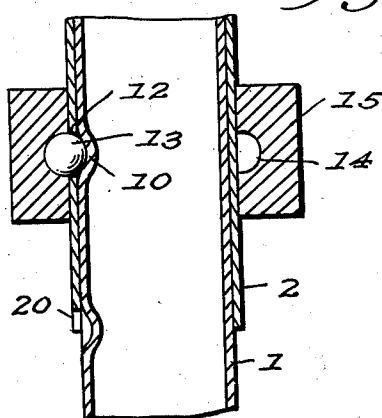


Fig. 5.



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Fig. 6.

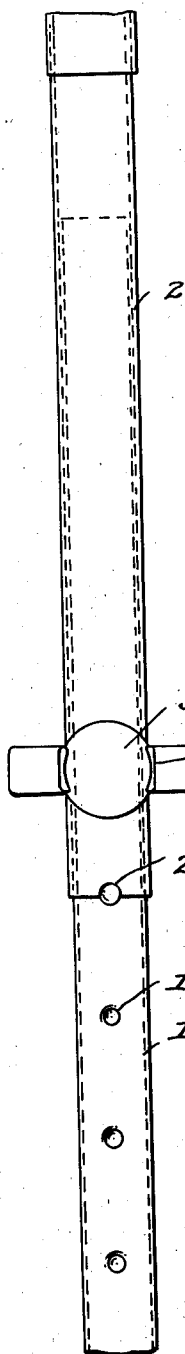


Fig. 7.

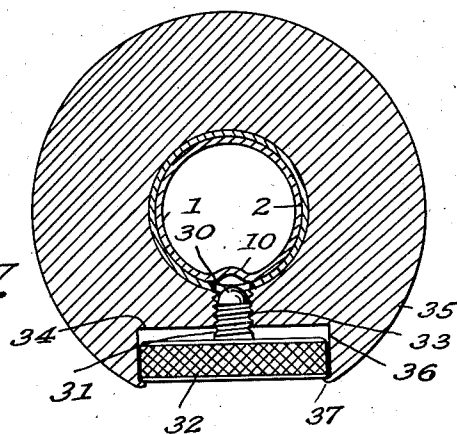


Fig. 8.

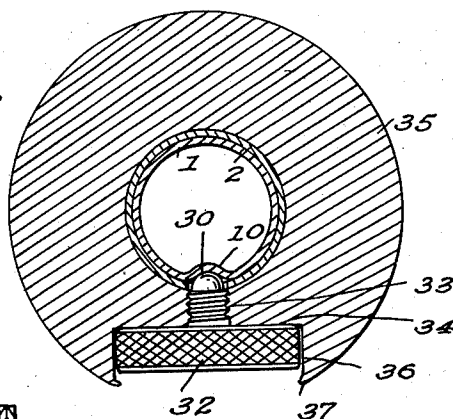
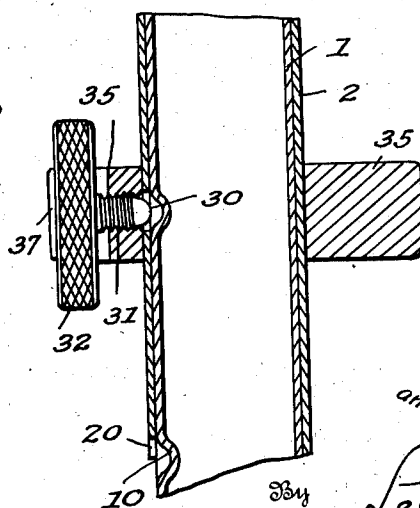


Fig. 9.



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ADJUSTABLE SKI POLE

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7 Claims. (Cl. 280—11.37)

This invention relates to ski poles and in particular to an adjustable ski pole wherein the length of the pole may be varied to fit the individual using the same and to meet the conditions encountered in skiing over different terrain.

An object of the invention is to provide an adjustable ski pole composed primarily of two telescoping metal tubes whose position one to the other may be quickly and positively adjusted.

Another object of the invention is to construct a simple and fool-proof lock for positively securing the telescoping sections together to insure that the length of the ski pole, after adjustment, will not slip or change.

Another object of the invention is to provide an indicator or signal whereby the user may visually position the sections and the lock therefor so that the sections may be easily uncoupled for adjustment and thereafter locked in rigid position.

In the drawings:

Fig. 1 shows the completed ski pole with its several conventional and novel parts.

Fig. 2 is an enlarged view showing the telescoping tubes with the locking means thereon and adjustment stops.

Fig. 3 is an enlarged horizontal cross-section taken on line 3—3 of Fig. 1, illustrating the position of the locking elements when the tubes are locked together.

Fig. 4 is a horizontal section taken on line 4—4 of Fig. 2, showing the locking means in unlocked position and when ready for adjustment.

Fig. 5 is a transverse vertical section taken on line 5—5 of Fig. 1, showing the tubes in locked position.

Figs. 6 to 9, inclusive, illustrate a modified type of adjustable ski pole in which Fig. 6 is an enlarged view showing the telescoping sections, sighting device and side elevation of the adjustable connection.

Fig. 7 is an enlarged view particularly in cross-section through the tubes and adjusting member showing the position when the adjustment is to be made.

Fig. 8 is a similar view to Fig. 7 with the parts in locked position.

Fig. 9 is a vertical section partly in cross-section of the locking means in retracted position.

More specifically, in Figs. 1 to 5 of the drawings, the adjustable ski pole comprises a lower tubular section 1 telescoping into an upper tubular section 2. The snow ring 3, bottom point 4 and upper knob or handle 5 with its wrist strap

6 are conventional and form no part of the present invention.

As illustrated in Fig. 2, the lower tubular section 1 is provided with a plurality of longitudinally spaced indentations 10 in the upper part thereof, and as shown inner tube 1 is constructed and so proportioned as to have a snug sliding set within the outer and upper larger tubular section 2.

As disclosed in Fig. 5, the upper telescoping member 2 is provided with an aperture or opening 12 near the lower end thereof for the reception of a hardened locking ball or element 13 which rides in a cam groove or run-way 14 cut into the inner periphery of the locking ring or cylinder 15. As best shown in Figs. 3 and 4, the cam groove 14 is cut somewhat deeper at 16 adjacent the threaded bore 18, having a screw plug 17 therein, although at no point is the cam groove 14 sufficiently deep to permit the ball 14 in the aperture 12 to ride over the outer periphery of the tube 2 and the inner periphery of the groove. It is only when the ball is opposite the screw plug 17, as in Fig. 4, that the ball 13 will disengage itself from the indentations 10 and drop into the bore 18 of the screw plug, and the cylinder or locking ring 15 may be rotated.

In use, the ball 13 is retained in the opening 12, and by reason of the cam groove 14 the ball is forced inwardly through the opening and positively engages one of the indentations 10 formed in the inner tubular section 1, see Fig. 5. When it is desired to lengthen or shorten the ski pole, the locking ring 15 is turned to a position where the ball 13 will be in the widest part of the cam groove and at the bore 18. This completely disengages the ball from the indentation 10 and permits the inner tubular section 1 to be slipped in or out of the outer section. When the proper adjustment as to length has been made, the cylinder 15 is again rotated to force the ball through the aperture 12 into the registering indentation 10, and rotation of the cylinder 15 with its cam groove locks the ball firmly in this position to retain the parts in rigid engagement.

To expedite or indicate the relative position of the parts, the lower edge of the outer member 2 is cut away at 20 in the form of a half circle of the same diameter as the indentations 10. Furthermore, the distance between the notch 20 and the aperture 12 is the same distance as the distance between the several indentations 10, and, therefore, when the notch registers with any of the indentations, the ball 13 may be quickly locked into the indentation directly be-

low the aperture. The screw plug 17, when aligned longitudinally with the notch 12, indicates that the ball is not under pressure of the cam groove, and the parts are in condition for adjustment. As before stated, after the screw plug is lined up with the notch, and after adjustment, a simple turn in either direction locks the ball into its proper indentation. By the use of a short screw plug 17, that does not pass into the inner annular space of the cylinder 15, the ball readily drops down into contact with the plug when it is desired to remove the cylinder from the member 2, and in this manner the user may remove the cylinder and ball without the danger of the ball falling out and becoming lost.

The modified form of adjusting and locking means illustrated in Figs. 6 to 9, inclusive, may also be used with telescoping members 1 and 2, and has a signaling or indicating cut away portion 20 similar to the construction shown and described in Figs. 1 to 5, inclusive. The plurality of longitudinally spaced locking indentations 10 are similar to the preferred construction, although in the modified showing they cooperate with the rounded end portion 30 of a screw threaded shank 31 integrally formed on the under side of a flat circular finger piece 32.

The screw threads on 31 engage corresponding screw grooves 33 formed in the bore or opening 34, passing through the fixed flange ring 35. This flange is rigidly attached to the outer telescoping tube 2 and is cut away at 36 through a portion of its periphery to permit the enlarged disc finger piece 32 to rest within the peripheral area, see Fig. 8. To limit the outward movement of the screw and finger piece, the outer side edges 37 of the opening 36 are in-turned to slightly overlie the outer surface of finger piece 32 so that when it is unscrewed, its outward movement will be restricted by these in-turned lugs while permitting enough movement for the rounded end 30 to be retracted from engagement with any of the indentations 10.

When this is done, as shown in Fig. 7, the two telescoping rods may be adjusted one to the other and a suitable adjustment as to length of the ski pole made in a manner previously described. After the adjustment has been made and positioned by means of the sight cut 20, the screw is rotated and projects end 30 through the opening 12 in tube 2 into engagement with corresponding indentation 10, as shown in Fig. 8, and thereby locks the tubes together.

What we claim is:

1. An adjustable length ski pole comprising a pair of telescoping tubes, a plurality of longitudinally aligned spaced indentations formed in the upper part of the inner of said tubes, an aperture in the wall of the outer of said tubes, a rotatable ring overlying the outer of said tubes adjacent the said aperture, a cam groove formed in the inner periphery of said ring, a locking element retained in said aperture and in said cam groove and adapted to be pressed into engagement with one of said spaced indentations when said ring is rotated.

2. A ski pole as defined in claim 1, wherein the locking element is a hardened ball.

3. A ski pole as defined in claim 1, wherein a screw plug is threaded through said ring at the deepest portion of said cam groove whereby the locking element will drop into the threaded bore of said plug thereby permitting the telescoping sections to be adjusted one to the other.

4. A ski pole comprising a pair of telescoping tubes; a plurality of spaced apart, longitudinally aligned indentations in the upper part of the inner of said tubes; an aperture in the wall of the outer of said tubes; a retractible locking member adapted to pass through said aperture and engage one of said indentations; and a notch in the lower edge of the outer tubular section for registry with the indentations in the inner tubular section wherein the aperture in the outer section is the same distance from the notch as is the distance between the aligned indentations.

5. A ski pole comprising a pair of telescoping tubes; a plurality of spaced apart, longitudinally aligned indentations in the upper part of the inner of said tubes; an aperture in the wall of the outer of said tubes; a retractible locking member adapted to pass through said aperture, including an annular flange affixed to the outer of said tubes, a screw-threaded bore passing through said flange and registering with the aperture in the wall of the outer of said tubes, a round ended bolt threaded in said bore, said bolt being provided with an enlarged turning disc on its other end, and a vertical cutaway portion in said flange to accommodate the plane of said disc within the outer periphery of the said flange, the outer edges of the sides of said cutaway portion being slightly in-turned to restrict the outward movement of said disc.

6. An adjustable length ski pole as defined in claim 4, wherein the retractible locking member adapted to pass through said aperture comprises a rotatable ring overlying the outer of said tubes adjacent said aperture; a cam groove formed in the inner periphery of said ring; and a locking element retained in said aperture and in said cam groove and adapted to be pressed into engagement with one of said spaced indentations when said ring is rotated.

7. An adjustable length ski pole as defined in claim 4, wherein the retractible locking member adapted to pass through said aperture comprises an annular flange affixed to the outer of said tubes; a screw-threaded bore passing through said flange and registering with the aperture in the wall of the outer of said tubes; a round ended bolt threaded in said bore, said bolt being provided with an enlarged turning disc on its other end; and a vertical cutaway portion in said flange to accommodate the plane of said disc within the outer periphery of the said flange, the outer edges of the sides of said cutaway portion being slightly in-turned to restrict the outward movement of said disc.

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