June 11, 1940. J. J. BIRKHOFER 2,204,469

SKI POLE CONSTRUCTION

Filed March 29, 1939

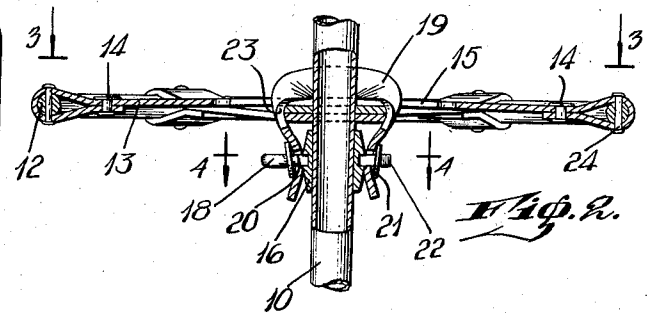


Fig. 2.

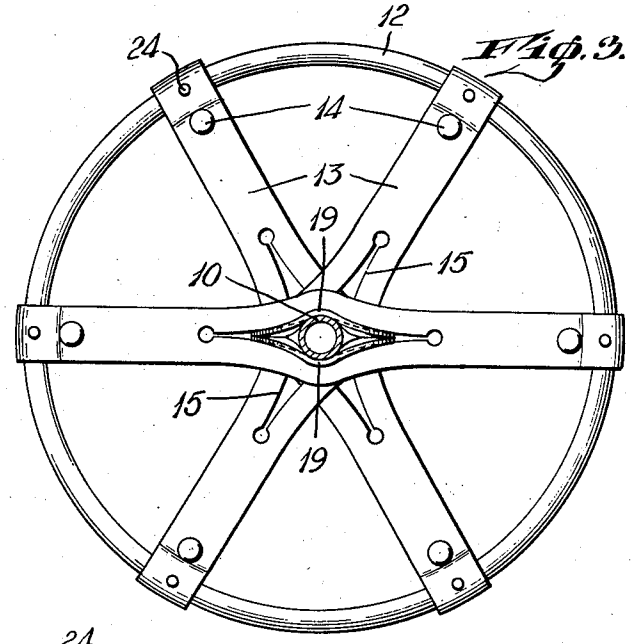


Fig. 3.

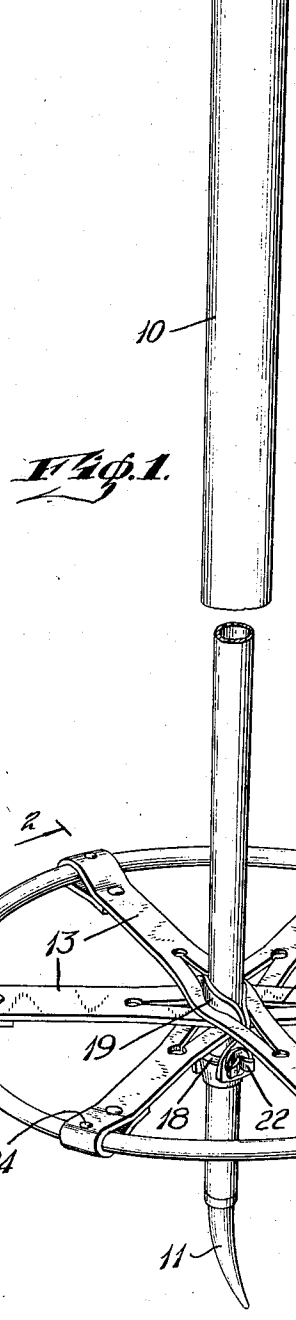
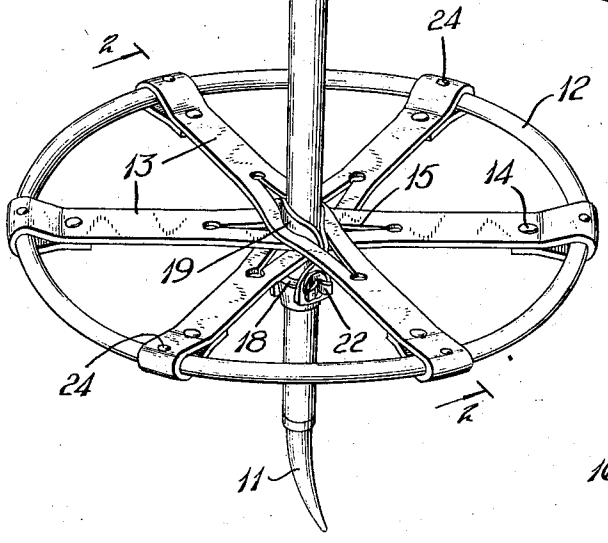


Fig. 1.



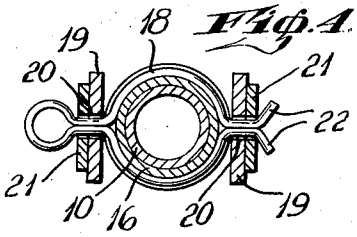


Fig. 4.

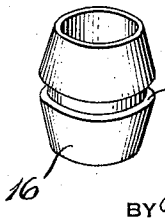


Fig. 5.

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SKI POLE CONSTRUCTION

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9 Claims. (Cl. 280—11.37)

This invention relates to a ski pole construction. It relates especially to means for retaining a snow ring on the shaft of a ski pole.

It is a purpose of this invention to afford an improved means for retaining a snow ring on the shaft of a ski pole without the necessity for drilling a hole in the shaft. When a hole is drilled in the shaft of a ski pole the hole weakens the shaft and affords an avenue through which water can get into the inside of the shaft so as to exert a deleterious action on the shaft as by rusting the shaft when it is made of metal. It is a further purpose of this invention to retain a snow ring on the shaft of the ski pole so as to afford a maximum amount of flexibility. It is a further purpose of this invention to afford means for retaining a snow ring on the shaft of a ski pole, which retaining means is inexpensive, is capable of quick and simple assembly, and can be made so as to eliminate washers.

According to one feature of this invention, the shaft of a ski pole is provided with a member such as a collar affixed thereto which is peripherally grooved and that a retainer member is maintained within the groove so as to prevent the snow ring from being moved longitudinally of the pole. It is a further feature of this invention that the means for retaining the ski ring on the shaft of the ski pole includes a member mounted for rotation together with the snow ring about the shaft of the ski pole so that the snow ring as a whole is free to rotate about the shaft, although the snow ring is restrained from movement longitudinally of the shaft. Further features of this invention relate to the members and the arrangement thereof by which the snow ring is retained on the ski pole so as to attain the purposes and advantages hereinabove referred to.

Further purposes, features and advantages of this invention will be apparent in connection with the following description of a specific embodiment of this invention which is shown for purposes of exemplification in the accompanying drawing, wherein—

Figure 1 is a perspective view of a ski pole embodying this invention with part of the shaft portion broken away;

Figure 2 is a sectional elevation of the region of the ski pole comprising the snow ring; the section in Figure 2 being taken on the line 2—2 of Figure 1;

Figure 3 is a top plan view of the snow ring with the shaft shown in section on the line 3—3 of Fig. 2;

Figure 4 is a plan sectional view of the ski pole taken on the line 4—4 of Figure 2; and

Figure 5 is a perspective view of the grooved collar forming a part of the means for retaining the snow ring on the ski pole, the collar being shown somewhat enlarged in Figure 5.

The ski pole shown in the drawing comprises a shaft 10. The shaft 10 may, if desired, have a pointed member 11 on the lower end thereof. The upper end of the shaft may be provided with a hand grip (not shown) of any suitable construction as is customary for use on ski poles. The shaft 10 may be made of any suitable material and is preferably made of metal tubing such as steel, aluminum, or the like, the shaft being gradually tapered from the upper end to the lower end.

About the shaft 10 adjacent the lower end thereof is a snow ring 12 made of any suitable material, e. g., some metal such as steel or aluminum. Across the diameter of the snow ring 12 are strap members 13 which are made of some suitable material such as leather and which are secured to the ring so as to be maintained tautly stretched thereacross as by rivets 14 or other appropriate securing means. The straps can be maintained disposed at approximately equally spaced intervals about the ring as by small pins 24 that extend into the ring 12. The strap members adjacent the mid-portion thereof have the interior slits 15, the sides of the strap members on each side of the slit straddling the ski pole.

The shaft 10 adjacent the lower end thereof has a member 16 affixed thereto having a peripheral groove 17 therein disposed transversely of the shaft. The member 16 is preferably in the form of a collar which is preformed and is fitted over the shaft so as to be in axial alignment therewith and is secured thereto in any suitable way, as by a force fit, marginal welding, or the like. The annular groove 17 is preferably positioned so as to be in a plane at approximate right angles to the axis of the shaft.

Fitting with the groove 17 is a retainer member 18 which in the embodiment here shown is in the form of a split pin, the ends of which are maintained in juxtaposition and the central portion of which is in the form of an annular ring fitting within the groove 17. A thong or tie member 19 has eyes 20 therein through which the ends of the split pin pass. The thong member can be made of leather or any other suitable material and the eyes 20 are preferably protected by washers 21 made of some suitable material such as metal. The eyes 20 and washers 21 serve to

hold the ends of the split pin in juxtaposition so that the annular central portion of the split pin cannot be removed from the groove 17. The ends 22 of the split pin can be bent outwardly so as to prevent the removal of the pin after the device has been assembled. The thong 19 between the two eyes 20 therein passes over the strap members 13 and thereby prevents the strap members from being moved longitudinally with respect to the shaft 10. Preferably the thong member has therein an interior slit 23 so that it can straddle the shaft of the ski pole and can assist together with the strap members in maintaining the snow ring centered about the shaft.

The assembling of the ski pole can be very easily accomplished. The collar 16 is affixed to the ski pole adjacent the lower end thereof. The ski ring is provided with the straps 13 extending thereacross and the shaft of the ski pole is passed through the interior slits 15 in the straps. The thong 19 is then passed over the straps 13. The split pin is inserted through one of the eyes in the thong and the two legs of the split pin are bent around the groove 17 in the collar 16. The ends of the split pin are then passed through the other eye in the thong on the other side of the shaft and are spread apart so as to keep the structure in assembled relation.

Inasmuch as the retainer member or split pin 18 has an annular central portion positioned within the annular groove 17, it is apparent that the retainer member is mounted on the shaft 10 so that it is freely rotatable about the shaft. Moreover, the interconnecting means between the retainer member 18 and the snow ring 12 are arranged so that the snow ring 12 is free to rotate about the shaft 10. This construction is of advantage, inasmuch as use of a ski pole frequently involves thrusting it into the snow and then turning the ski pole before it is pulled upwardly again and it is desirable that the shaft of the pole can be rotated without rotating the snow ring. Moreover, the construction allows for great flexibility in the diposition of the snow ring about the ski pole so that it can conform to uneven snow surfaces when the ski pole is in use. It has been mentioned above that the improved construction avoids the drilling of a hole through the shaft which would result in weakening the shaft and which would afford an avenue whereby water might get into the inside of the shaft. The construction utilizes parts which can be readily and inexpensively manufactured and which can be very economically assembled.

While the member 16 is shown in the form of a separately formed collar, it is, of course, possible to make the member 16 integral with the shaft. The member 16 can be made of any suitable material such as aluminum, copper, steel, plastic material, hard rubber or synthetic resin such as a resin of the phenol-formaldehyde type.

While this invention has been described in connection with a specific embodiment thereof, it is to be understood that this has been done merely for the purpose of illustration and that the structure shown in the drawing is subject to considerable variation without departing from the scope of this invention. Thus it is apparent that the member 16 can be made in various forms and that the groove 17 can be afforded therein in a number of different ways. Moreover, the member 16 can be made in a single piece, as shown, or in a plurality of pieces, as may be desired. It is also apparent that the retainer member which fits within the peripheral groove of the member affixed to the shaft may be made in many different forms other than a split pin and can be attached to a thong in other ways than by passing a part thereof through eyes in the thong. While the means interconnecting between the ring 12 and the retainer member 18 comprises the straps 13 and the thong 19 in the illustrated embodiment of this invention, it is apparent that other means may be used whereby the snow ring may be prevented from being moved longitudinally of the shaft relative to a retainer member maintained in the peripheral groove of member 16.

The scope of this invention is to be governed by the language of the following claims.

I claim:

1. In a ski pole including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising a collar axially affixed about said shaft adjacent one end thereof, an annular groove about the outer periphery of said collar disposed transversely of said shaft, a retainer member having an annular portion maintained within said groove, strap means connected to said ring and straddling said shaft, and means interconnected between the shaft straddling portions of said strap means and said retainer member to prevent the movement of said ring longitudinally of said shaft.

2. In a ski pole including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising a collar axially affixed about said shaft adjacent an end thereof, an annular groove about the periphery of said collar transversely of the axis of said shaft, a split pin member having an annular mid portion maintained within said groove, strap members extending approximately diametrically across said snow ring, each having a centrally split portion straddling said shaft and ends secured to said ring, and a thong attached to each end of said split pin member and passing over said strap members so as to prevent the movement of said strap members longitudinally of said shaft.

3. In a ski pole including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising a member affixed to said shaft adjacent an end thereof having a peripheral groove in a plane approximately at right angles to the axis of said shaft, a retainer member maintained within said groove adapted to rotate about said shaft, connecting means attached to said ring and straddling said shaft, and means interconnected between the shaft straddling portions of said connecting means and said retainer member and arranged to prevent the movement of said ring longitudinally of said shaft and to permit the rotation of said ring together with said retainer member about said shaft.

4. In a ski pole including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising a peripherally grooved member affixed to said shaft, a split pin about said member maintained within said groove, a thong having spaced eyes, said split pin passing through one of said eyes on one side of said shaft and passing through the other of said eyes on the other side of said shaft, and said thong passing over strap members extending across said snow ring to prevent movement of said snow ring longitudinally of said shaft.

5. In a ski pole including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising strap members extending across said ring and affixed thereto and straddling said shaft, a member affixed to said shaft having a

peripheral groove disposed transversely of said shaft, a retainer member maintained in said groove, and a tie member secured to said retainer member and to the straddling portions of said strap member and arranged to prevent movement of said strap members longitudinally of said shaft relative to said retainer member.

6. In a ski pole including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising a collar affixed to said shaft having an annular peripheral groove therein disposed transversely of said shaft, a split pin having an annular mid portion within said groove, means for maintaining the ends of said pin in juxtaposition, and means secured to said pin to prevent substantial movement of said snow ring longitudinally of said shaft.

7. In a ski pole, including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising strap members extending across said ring and secured thereto and interiorly slitted and disposed so as to straddle said shaft, a member affixed to said shaft having an annular peripheral groove disposed transversely of said shaft, a retainer member maintained in said groove and rotatable in said groove about said shaft, and means secured to said retainer member and rotatable with said retainer member about said shaft and arranged to prevent movement of said strap members longitudinally of said shaft.

8. In a ski pole including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising a split pin having a central portion surrounding said shaft, means affixed to said shaft for preventing movement of said pin longitudinally of said pole, means for maintaining the ends of said pin in juxtaposition, and means secured to the ends of said pin adapted to prevent movement of said snow ring longitudinally of said shaft.

9. In a ski pole, including a shaft and a snow ring, means for retaining said snow ring on said shaft comprising strap members extending across said ring and secured thereto at both ends, a member affixed to said shaft and having an annular peripheral groove, a retainer member maintained in said groove and means secured to said retainer member and to the portions of said strap members adjacent the shaft and rotatable with said retainer member about said shaft and arranged to prevent movement of said strap members longitudinally of said shaft.

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