

April 10, 1956

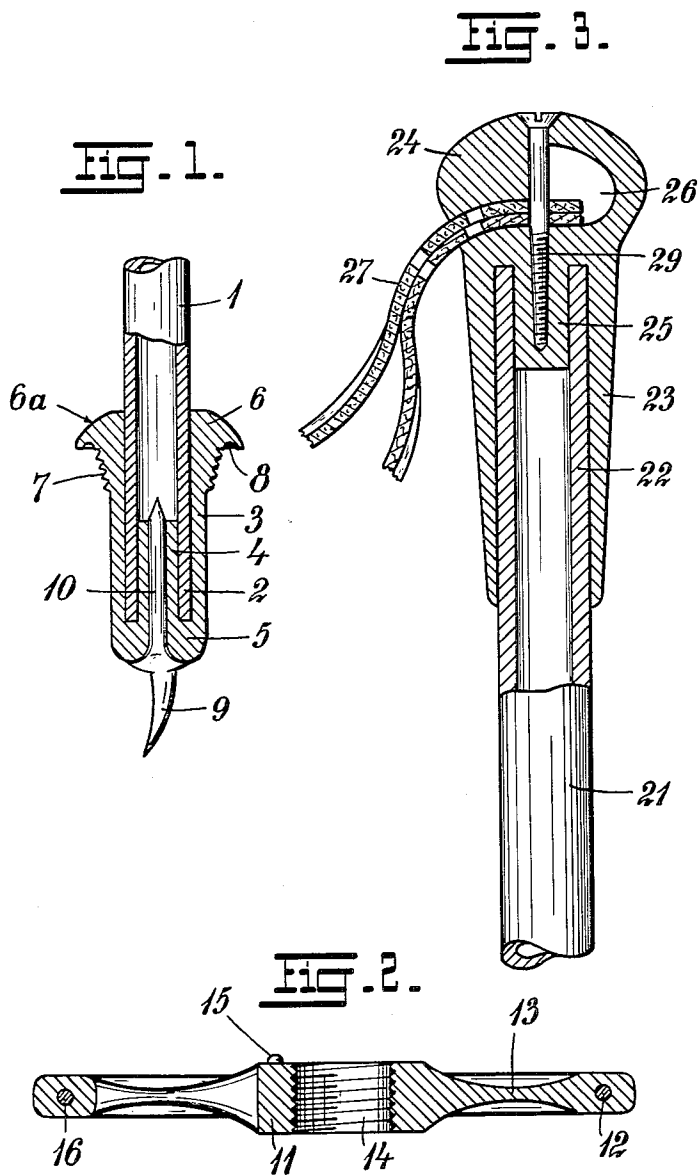
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2,741,485

SKI STICKS

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2 Sheets-Sheet 1



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Fig. 4.

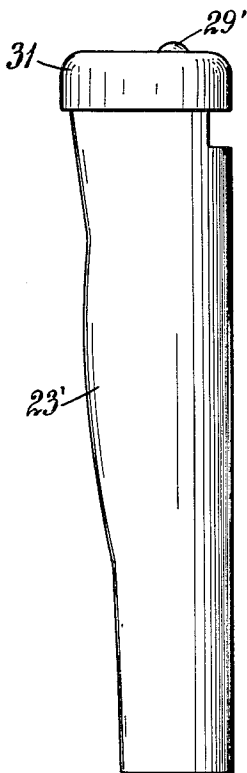


Fig. 5.

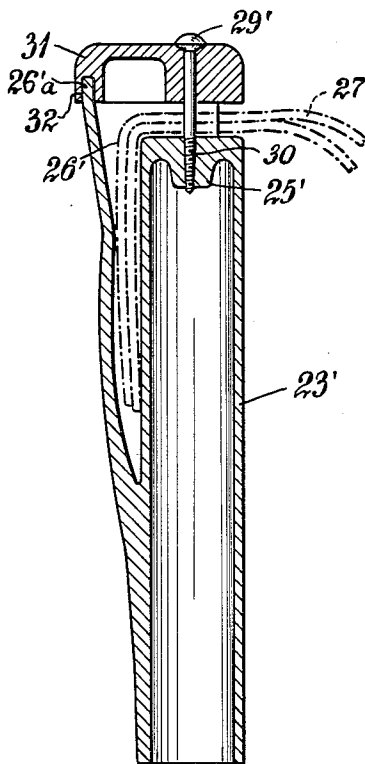


Fig. 6.

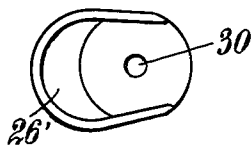
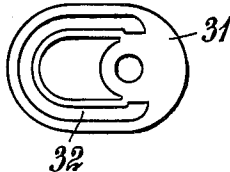


Fig. 7.



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8 Claims. (Cl. 280—11.37)

This invention relates to ski poles and more particularly to a new and improved arrangement by which the spike and disc assembly may be attached to the lower end of the pole. The same improved arrangement may also be utilized for the attachment of the hand grip and strap loop assembly to the upper end of the pole.

The commonly used method for the attachment of the disc and the spike for a ski pole is to surround the lower end of the ski pole with a metallic ferrule, whereupon a bung is pressed into the central hole of the ski pole, and the spike is driven into the bung. The disc is then attached by means of a through-bolt. This method of attachment is time wasting as well as defective, the bung having a tendency to be displaced up into the ski pole whereby the spike becomes ineffective, at the same time the through-bolt causing wear on the ski pole, the ferrule and the disc, which parts therefore after relatively short time of use necessitate repair or may result in breakage.

Various other methods of attachments are also known, but none of these have attained practical use due to the fact that they are too complicated and are expensive to produce and/or mount on the ski pole.

The invention has for its object to provide a very simple and yet rugged mode of attaching the spike and disc assembly and/or the hand grip and strap assembly to the end of the ski pole. The construction involves a minimum of parts and labor and is characterized principally by a ferrule preferably produced in one piece as a unit which by a simple working operation is pressed in place on the ski pole and is secured by means of screws or other stopping means.

More particularly, it is an object of the invention to provide a hand grip and strap assembly and/or a spike and disc assembly, each of which comprises a ferrule for attachment to the end of the tubular ski pole, the ferrule including an outer sleeve portion and an inner, longitudinally directed, centrally arranged spigot or plug made integral with the bottom of the ferrule so that the walls of the ski pole are situated between the spigot and the surrounding sleeve. The ferrule according to the invention is preferably made from slightly elastic plastic material or the like, so that by inserting the spike, or the screw, the spigot acts as an expansion plug for the securing of the ferrule arrangement.

In the drawings are shown as examples some embodiments according to the invention.

Fig. 1 is a central section through the lower end of a ski pole having secured thereupon a ferrule device according to the invention.

Fig. 2 is a central section through a disc to be used in connection with the ferrule device according to Fig. 1.

Fig. 3 is a central section through the upper end of the ski pole illustrating an embodiment of the invention whereby the ferrule device forms a combined hand-grip and loop attachment for the ski pole.

Figs. 4-7 show a further modification of the ferrule arrangement according to the invention here carried out as a combined hand-grip and attachment for the loop.

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Fig. 4 is a side elevation of the combined hand-grip and loop attachment.

Fig. 5 is a longitudinal central section of the hand-grip shown in Fig. 4.

Fig. 6 is a top plan of the Fig. 4 construction with the cap member removed.

Fig. 7 is a bottom plan view of the cap member shown in Figs. 4 and 5.

As will be seen from Figs. 1 and 2 the attaching device according to the invention is constituted principally by a ferrule which includes a cylindrical sleeve portion 3 adapted to engage the outside of the lower end of the ski pole 1. The sleeve 3 in the lower end is made integral with a part 5 which closes the sleeve and which extends longitudinally to form a central spigot 4. In said spigot 4 is a central hole for inserting the shank or pin 10 of a spike 9. At the upper end 6 the sleeve 3 is provided with threads 7 for attaching a disc, the disc being provided with correspondingly formed threads.

Said disc in Fig. 2 is seen in section and is in common with the ferrule device according to Fig. 1 preferably produced from plastic or similar material. The entire disc can be moulded or in another way produced from a suitable plastic material and is provided with an inner hub 11 having internal threads 14 corresponding to the external threads 7 on the sleeve 3. In the outer rim portion 12 of the disc is preferably embedded a piano wire 16 as a core. The number of spokes 13 connecting the hub and rim is chosen taking into consideration the kind of plastic to be used. Preferably the number of spokes is 5.

At the upper end 6 of the sleeve above the threads 7 is arranged an abutting collar 6a in which is pre-formed a circular groove 8. One side of the inner hub 11 of the disc is provided with one or more projections 15. In threading the disc on the threads 7 on the sleeve 3 the projection or projections 15 are in engagement with the circular groove 8 when the hub 11 is threaded to engagement against the collar 6a. Experience has proved that due to the fact that the plastic material is elastic, the projections 15 and the groove 8 will cooperate in such manner as to establish a frictional locking action securing the disc to the ferrule. To this end the projection 15 is formed with a slightly greater diameter than the groove 8 so that a certain amount of deformation takes place.

The threads 7 on the sleeve 3 are preferably made on a slightly conical part so that by threading on the disc the upper part 6 of the sleeve 3 is pressed with relatively great power against the ski pole 1. The insertion of the spike 9 with its pin 10 will cause the spigot 4 of the ferrule to be expanded radially outward, thereby establishing a positive engagement against the inner wall of the tubular ski pole 1. Moreover threading the disc upon the conical threaded portion 7 of the sleeve 3 effects a radially inward pressure of the sleeve against the outer wall of the ski pole thus establishing a further frictional lock which aids in holding the ferrule and the disc also in place at the lower end of the ski pole.

From the foregoing description it will thus now be evident that the invention provides a very simple and practical ferrule device for the attachment of the disc and the spike for a ski pole. The ferrule device can be produced as a unit which by a simple working operation can be pressed on the lower end of the ski pole. Due to the elasticity of the material it is only necessary to produce one, perhaps a couple of standard ferrules, said ferrules being adapted for the different ski pole dimensions during the pressing operation.

Fig. 3 shows a modification of the invention, the principles of construction of the ferrule device in this case being similar to that shown in Fig. 1, but is here adapted

as a hand-grip and loop attachment for the ski pole 21. The sleeve 23 is here made slightly conical as shown. It has a central spigot 25, and the spigot and the sleeve are secured over the upper end 22 of the tubular ski pole in essentially the same manner as previously described in connection with the embodiment shown in Figs. 1 and 2. The sleeve 23 at the upper end is made integral with a head 24 in which there is a cavity 26 for the insertion of the ends of the strap loop 27. These ends are secured in the opening 26 by means of a screw 29, which is threaded down through the head and into the spigot 25. The screw 29 expands the spigot 25 slightly, which brings it to a firm engagement against the inner wall of the tubular end 22 of the ski pole into which it is inserted.

Figs. 4, 5, 6 and 7 show a further modification of the ferrule arrangement according to the invention here also carried out as a combined hand-grip and strap loop retainer. In said figures the sleeve, spigot, cavity for insertion of the ends of the strap loop and screw are similar in function to their corresponding components in the Fig. 3 embodiment and hence have been assigned the same reference numerals but with primes added thereto to permit distinction. The construction shown in Figs. 4-7 is characterized by the fact that the cavity or chamber 26' providing space for the surplus length of the loop end is provided with a detachable end wall in the form of a cap covering the chamber. Said cap 31 is provided with a groove 32 which receives the upper edge 26'a of the hand-grip sleeve 23'. The cap is secured in place by means of the screw 29' which goes through holes in the loop and into the bore 30 in the expansion spigot 25'. The hand-grip sleeve 23', as will be seen from the figure, is provided with an elongated recess 26' extending longitudinally of the sleeve, as distinguished from the smaller chamber in the Fig. 3 construction limited to the head or end of the grip, for the insertion of the loop. This arrangement makes it very simple to vary the length adjustment of the loop and the elongated characteristic of the chamber 26' affords a greater range of adjustment for the length of the loop 27'. For further securing the cap 31 in place on the outer side of the hand-grip a collar (not shown) may be provided, which gives support to the cap when in place on the end of the sleeve.

The ferrule device according to the invention may be produced from different kinds of material. Especially advantageous is it, however, to produce the ferrule device from plastic material. A series of tests has proved that certain types of plastics in spite of variable temperature, moisture and age maintain a certain resilience so that a ferrule or hand-grip produced from such material always adapts itself to the form of the wood and lies closely around the ski pole. Especially polythene, alcatene and P. V. C. have proved to be favourable materials for the production of ferrule arrangements according to the invention.

It will be understood that the embodiments shown and described only serve as illustrated examples and that variations may be carried out within the scope of the invention. Further plastic compounds other than those mentioned are possible.

We claim:

1. In combination a ski pole having at least the end portion of tubular form and a ferrule adapted to surround and close off the end portion of said pole, said ferrule

comprising an outer sleeve surrounding and in contact with the outer wall of the end portion of said pole, the end of said sleeve being closed, a spigot internal of and integral with said sleeve, said spigot extending into the end portion of said pole and establishing a tight frictional fit with the inner wall of said pole and means extending longitudinally through the closed end of said sleeve into said spigot and expanding said spigot into a tighter frictional lock with the inner wall of said pole.

2. The combination as defined in claim 1 wherein said ferrule is made of slightly elastic plastic material.

3. The combination as defined in claim 1 and wherein said means for expanding said spigot comprises a spike having a shank portion driven into said spigot.

4. The combination as defined in claim 1 and wherein said means for expanding said spigot is constituted by a screw which is screwed into said spigot.

5. In combination a ski pole having at least the lower end portion thereof of tubular form, a ferrule adapted to surround and close off said lower end portion of said pole, said ferrule comprising an outer sleeve surrounding and in contact with the outer wall of said lower end portion and a spigot internal of and integral with said sleeve, said spigot extending into said lower end portion and establishing a tight frictional fit with the inner wall of said pole, said outer sleeve including an externally threaded portion, a disc having an internally threaded hub screwed onto the threaded portion of said outer sleeve, and a spike including a shank portion driven longitudinally through the lower end of said ferrule into said spigot and expanding said spigot into a tighter frictional lock with the inner wall of said pole.

6. The combination as defined in claim 5 wherein the threaded portion of said sleeve is tapered thereby establishing a radially inward pressure on said sleeve against the outer wall of said pole as said disc is screwed into place on said ferrule.

7. The combination as defined in claim 5 wherein the end face of the hub of said disc is provided with a projection engageable frictionally with a circular groove provided in a flanged portion of said sleeve as said disc is screwed into place on said ferrule.

8. The combination as defined in claim 1 wherein said ferrule constitutes a hand-grip at the upper end of the pole and includes a cavity at the upper end thereof receiving the ends of a strap loop and wherein said means for expanding said spigot is constituted by a screw extending through the upper end of said ferrule into said cavity and through the ends of said strap loop into said spigot longitudinally thereof and expanding said spigot into a tighter frictional lock with the inner wall of said pole.

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