June 24, 1969 R. J. McDONALD 3,451,688

HANDLE FOR SKI POLES AND THE LIKE

Filed Dec. 6, 1966 Sheet 1 of 2

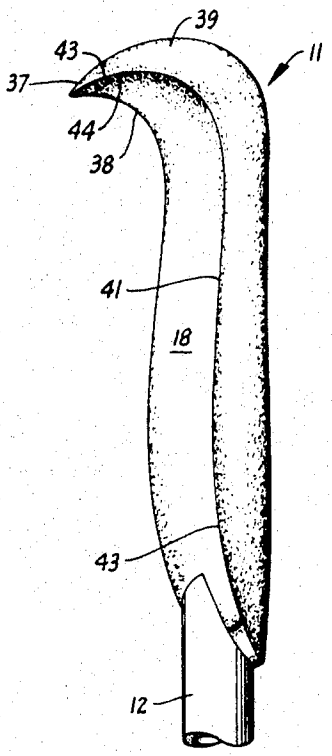


FIG. 1.

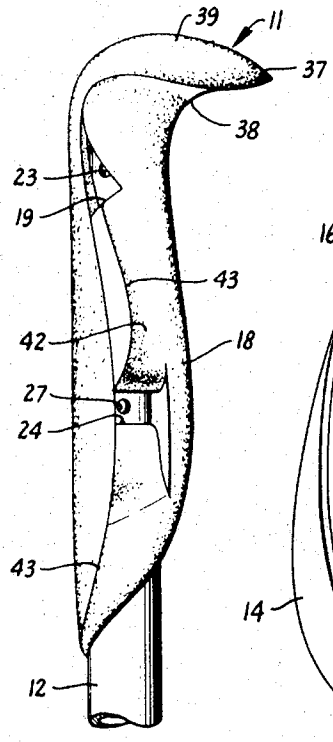


FIG. 2.

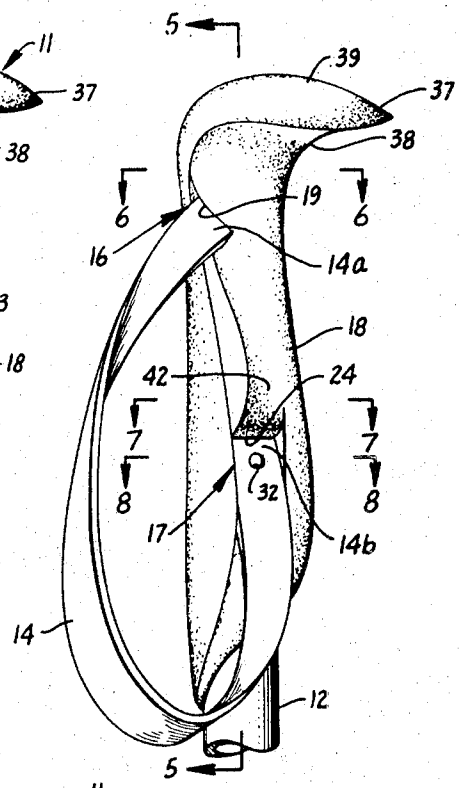


FIG. 3.

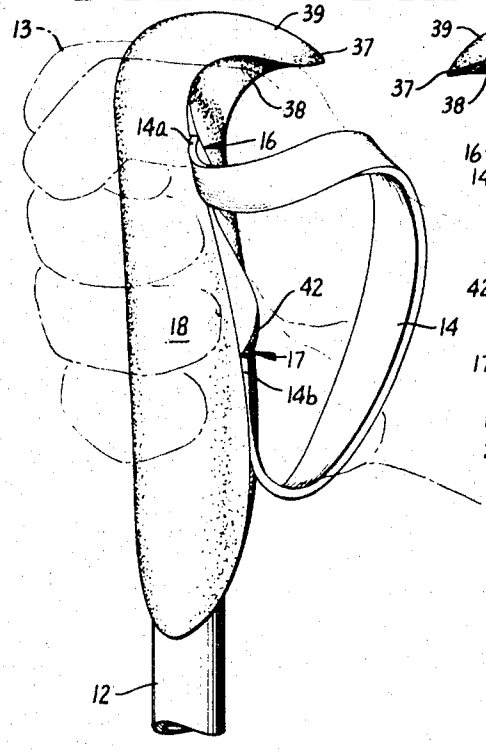


FIG. 4.

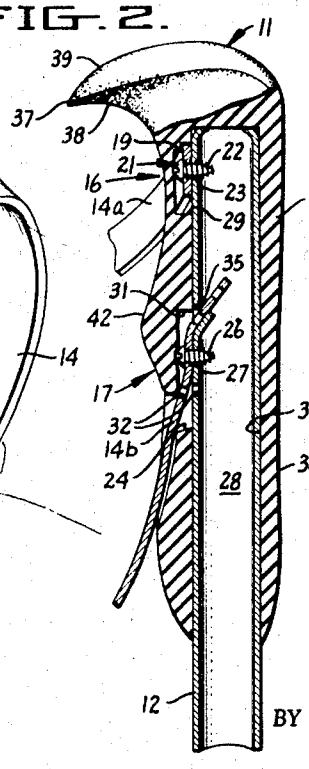


FIG. 5.

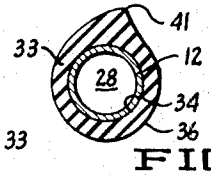


FIG. 6.

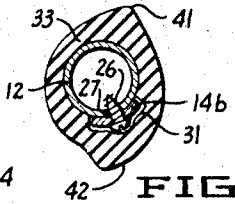


FIG. 7.

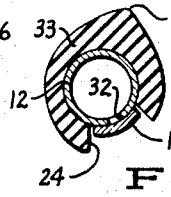


FIG. 8.

INVENTOR.
ROBERT J. McDONALD

BY

ATTORNEYS

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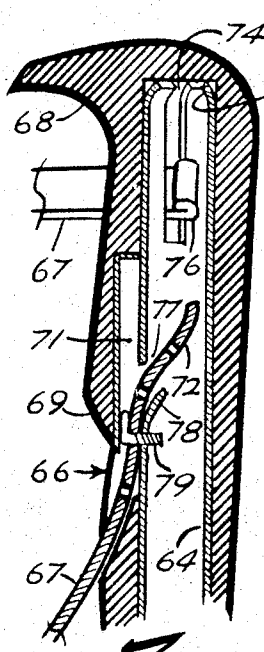


Fig 11

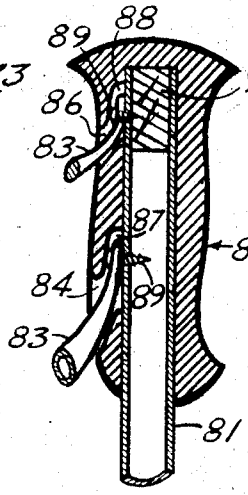


Fig 12

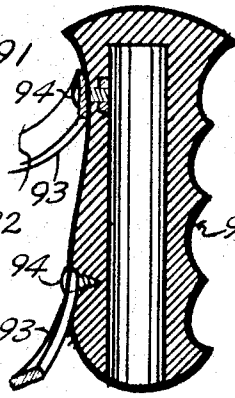


Fig 13

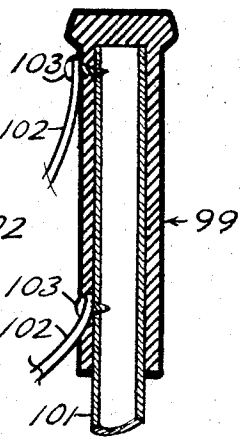


Fig 15

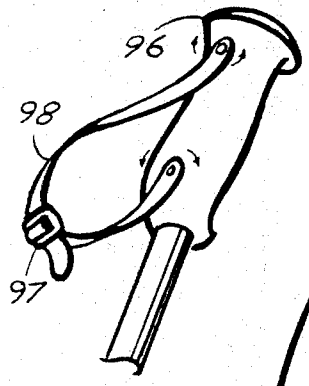


Fig 14

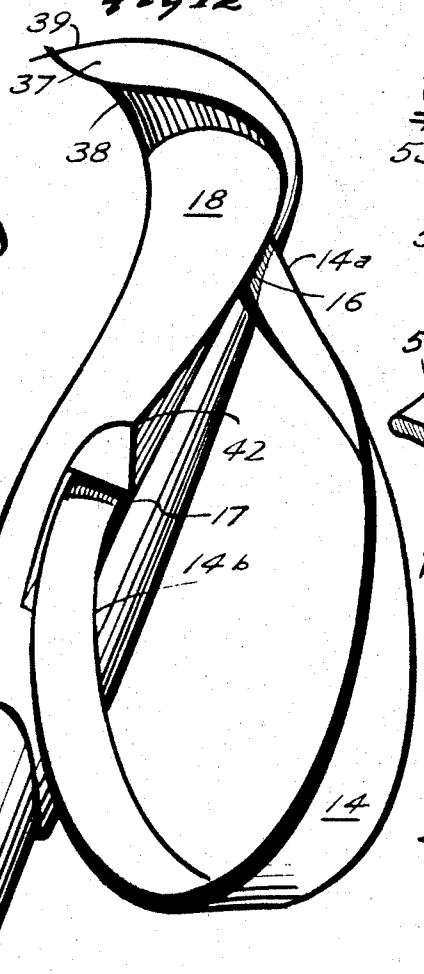


Fig 9

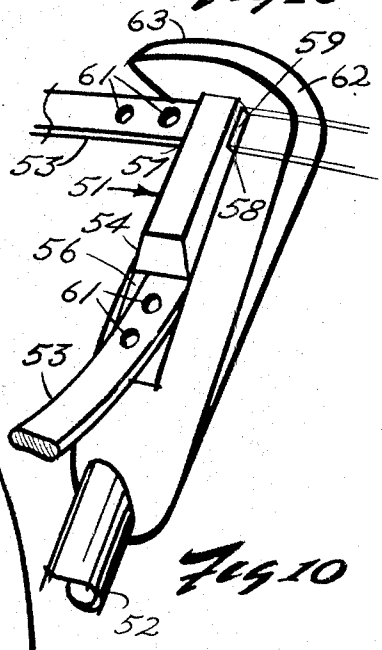


Fig 10

INVENTOR

ATTORNEY

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3,451,688

HANDLE FOR SKI POLES AND THE LIKE

Robert J. McDonald, 3229 Ardley Ave., Oakland, Calif. 94602

Continuation-in-part of application Ser. No. 344,998, Feb. 14, 1964. This application Dec. 6, 1966, Ser. No. 600,007

Int. Cl. A63c *11/24*

U.S. Cl. 280—11.37 17 Claims

ABSTRACT OF THE DISCLOSURE

A handle for ski poles having a grip and a strap attached to the handle through the grip, with the attachments being separated and the strap long enough to circumscribe a major portion of the wrist to obtain a novel anchor on the hand of the user which is comfortable and secure.

This invention relates to improvements in handles for ski poles and the like, and is a continuation in-part of my application, Ser. No. 344,998 filed Feb. 14, 1964 now U.S. Patent No. 3,290,049. More particularly, the invention relates to those handles which incorporate a retaining or wrist strap.

Ski poles are used by skiers for balance and traction and are notably essential in slalom and high speed downhill skiing. In these modes of skiing, enormous forces are exerted on the pole by the skier and it is imperative to provide a positive and comfortable gripping location for the skier's hand on the pole, for here is where these forces are most acute.

Straps are sometimes provided to insure against complete loss of the pole by the skier in case of temporary dislodgment. Thus the strap is attached to the handle of the ski pole and forms a loop, into which the skier's hand is inserted. In other words, the strap has its ends attached to the pole handle from whence the strap encircles the wrist of the skier.

In previous accepted modes of attaching the strap to the ski pole handle, the strap emerged from juxtaposed points on the handle, usually near the top of the handle just above the gripping surface. This required the skier to grip a portion of the strap between the palm of his hand and the ski pole handle; and, as a more serious consequence, the hand could be pulled over the top of the handle leaving the pole free to dangle at the end of the skier's wrist. The disadvantage of having a ski pole flailing at the end of one's wrist, while plummeting down the slopes, is obvious.

As an additional consequence the term "skier's thumb" has become an axiom among skiers. This refers to the many sprained and sometimes broken thumbs suffered by the users of the present type of strap which attaches to the pole at a single top location.

This invention further obviates the inadequate profile of the present ski pole handles which are designed to fit both the right and left hand and as a consequence fit neither hand well.

Further shortcomings of present-day handles are similarly overcome, such as the danger of losing an eye or other injury when the butt end of the handle is thrust into the face during an unexpected mishap. Some attempts

have been made to relieve this danger, as by placing large spherical bulbs at the ends of the handle, but these attempts have proved to be inadequate.

Accordingly, it is a principal object of the present invention to provide a handle for ski poles which affords the maximum of comfort and safety to the user.

A further object of the present invention is to provide a ski pole handle and strap combination in which, in case of a user's hand losing its grip on the handle, the strap will keep the pole next to the skier's hand in correct position for him to again grip the handle and regain control of the ski pole.

A still further object of the present invention is to provide a handle and wrist strap which obviates the discomfort of having to grip a portion of the strap between the hand and handle.

Another object of the present invention is to provide a handle of the charter described having a configuration which engages the hand in a comfortable and secure manner and cooperates therewith to prevent the handle from twisting in the hand.

Yet another object of the present invention is to provide a construction for fastening the straps to the pole in such a way that the handle is also secured on the pole with the fastening means hidden from view.

Another object of the present invention is to provide a ski pole handle which incorporates the aforesaid features in an attractive and economically producible configuration.

Further objects and advantages of the invention will be apparent as the specification progresses, and the new and useful features of the handles for ski poles and the like will be fully defined in the claims attached hereto.

The preferred form of the invention is illustrated in the accompanying drawing forming part of this application, in which:

FIGURE 1 is an elevational view of one side of a typical right hand grip made in accordance with the preferred form of the present invention but as it would be on a ski pole without the retaining strap in place;

FIGURE 2, a side elevational view of the grip shown in FIGURE 1 showing the side diametrically opposite that shown in FIGURE 1, and the grip pushed on the handle to a fastening location;

FIGURE 3, a view similar to FIGURE 2 but with the retaining strap in place, and the grip pushed all the way on the handle;

FIGURE 4, a view of the handle in FIGURE 3 slightly rotated to the right and shown at it would be gripped by a skier;

FIGURE 5, an elevational section taken substantially in the plane of line 5—5 of FIGURE 3 and illustrating how the strap is secured to the pole;

FIGURE 6, a section taken along line 6—6 of FIGURE 3;

FIGURE 7, a section taken along line 7—7 of FIGURE 3;

FIGURE 8, a sectional view taken alone line 8—8 of FIGURE 3;

FIGURE 9, a view of a handle similar to that shown in FIGURES 1 through 8, but formed for gripping by the left hand;

FIGURE 10, a perspective view of another embodiment of the invention;

FIGURE 11, an elevational view, in section, illustrating still another embodiment of the invention;

FIGURE 12, an elevation view, in section, illustrating a simple form of the invention incorporating the generic concept thereof;

FIGURE 13, an elevational view, in section, illustrating a modified simple form handle means constructed according to the invention;

FIGURE 14, a perspective view of another simple embodiment incorporating the generic concept of this invention and illustrating a modified form of strap; and

FIGURE 15, an elevation view, in section, illustrating still another modified form of the invention.

While only the preferred forms and certain general illustrations of the invention are shown, it should be understood that various other changes or modifications may be made within the scope of the claims attached hereto without departing from the spirit of the invention.

It should be appreciated that the grip illustrated in FIGURES 1 through 8 is intended to be used with the right hand and that a left hand grip would be a mirror image as illustrated in FIGURE 9.

In its broad form, the invention provides a handle for ski poles or the like comprising handle means of elongated form adapted for providing a hand hold at one end of the pole, and a flexible strap operatively connected to said handle at longitudinally spaced locations therealong, said strap being held to cooperate with the handle means between the spaced locations to form a loop having sufficient length to circumscribe a major portion of the wrist of a user when the user's hand is in gripping position on the handle.

As indicated above, it is preferred to utilize straps which surround a major portion of the wrist so that skiers or the like may have a better control of the poles. However, prior to this invention, it was considered necessary to have both strap ends positioned at the top of the pole to provide the desired loop and strength. It has been suggested to separate the strap ends, and allow the hand to grip the handle directly. This design has not been successful because the strap merely passes over the fingers or back of hand and does not circle a major portion of the wrist, and pull in tight to give a secure and firm anchor or cradle the hand and wrist to absorb the severe downward forces exerted by professional calibre skiers.

In the present invention, it is important to provide a strap which is long enough to be secured to or through the handle means at points close to the hand and yet provide a loop long enough to circumscribe a major portion of the wrist. To achieve this, the strap section of the loop should be at least about 7 inches, depending on the size of the hand of the user, and no more than about 16 inches depending on both the size of the hand of the user and the size of his glove. Thus for children the strap section of the loop should preferably be from between about 7½ and 10 inches, for women from about 8½ to 12 inches, and for men about 9¼ to 14 inches. Since sizes vary between different users and on the same user with different clothing, it is preferred to make the length of the strap adjustable.

In order to provide a secure anchor, it is also preferred to have the separated strap spaced substantially less than the width of the hand of the user. In such a case, the strap will enter the handle means under the palm of the hand and provide a cradle for the hand and wrist. In this form, it is preferred to form a channel in the handle means to accommodate the section of the strap fitting under the palm so the palm can rest firmly against the gripping surface.

The amount of separation between the strap ends will vary with the design of the grip and the size of the user's hand. In general, the separation will be between 1 and 4 inches, and preferably be between 1½ and 3 inches. When the grip contains a channel for the lower strap the separation may be minimized, but the effective separation should be at least about 1 inch.

Referring more particularly to the drawings, there is shown the preferred form along with various simple embodiments all incorporating the concept of the invention with the preferred form showing certain features which are desirable to provide an excellent handle.

As shown in FIGURES 1 through 9 of the drawings, a preferred handle for ski poles and the like constructed according to the present invention consists basically of handle means **11** of elongated form adapted to provide a hand hold at one end of a pole **12**, and a flexible strap **14** operatively connected to said handle means at longitudinally spaced locations **16** and **17** therealong so that the handle means **11** and strap **14** cooperate to provide a loop adapted to engage and restrain the hand **13** of the skier.

As an important feature of the present invention the strap ends are separated where they engage the grip or handle. This separation could take the form of securing the strap ends at points **16** and **17** as is illustrated in FIGURE 5 or in other ways, the main feature being that the effective ends of the strap are separated and that a grip surface **18** is interposed therebetween to complete the loop that will circumvent a major portion of the wrist. The preferred relationship of strap and handle is best shown in FIGURE 4, wherein the strap emerges from near the top of the handle, preferably at an angle as shown, and passes under the thumb, around the back of the hand and re-enters the handle near the butt end of the hand.

This relationship of the strap ends overcomes several difficulties encountered in previous ski pole handle and wrist strap combinations. For instance, it will be noted that if the hand is opened the gripping surface **18** will remain near the palm of the hand and be in a position to be readily regrasped.

It will be noted further that by separating the strap ends the hand will be stopped from sliding any appreciable distance along the handle. Similarly the thumb joint, between the thumb and index finger, is not submitted to the full force of a blow as on previous handles.

Another important feature of the embodiment of FIGURES 1 through 9 is the mode in which the strap is secured to the ski pole. The strap emerging from the lower end of the handle, at **17**, is directed downwardly and away from the handle. From here the strap makes a half twist and enters the upper end of the handle at **16**, axially displaced and askew to the lower end.

Preferably, the length of the strap is adjusted by concealed means and the usual buckle is eliminated. Such concealed adjusting means may be of any suitable form. As here shown, the upper strap end enters the handle through passageway **19** and is secured to the ski pole by suitable fastening means **21** such as a screw **22** held in hole **23** in ski pole **12**; the other and **14***b* enters the handle through passage **24** and is similarly secured to the ski pole by a screw **26** in hole **27**.

In order to keep the attractive qualities that have been designed into the handle, the fastening means are hidden from view but are readily accessible. This is accomplished by relieving the interior bore **28** to provide recesses **29** and **31** under the handle adjacent the passages **19** and **24** into which the strap ends and the fastening means are lodged. To apply the handle and straps to a ski pole the handle is pulled onto the end of the ski pole until the passages **19** and **24** coincide with holes **23** and **27**; the strap ends are then secured to the pole with screws **22** and **26**. After the strap ends are so secured the handle is pulled further onto the pole until the strap ends and their fastening means are concealed under the handle in recesses **29** and **31**. This mode of attachment also keeps the handle **11** from moving axially or circumferentially on the pole **12**. The usual plug in the end of the ski pole may be eliminated by swaging over the end of the pole as shown in FIGURE 5.

Adjustment of the strap length is here effected by securing the strap through suitable alternate holes **32**, provided

in either the shaft or strap. It will be appreciated that a considerable length of strap can be accommodated in the relieved recesses **29–31** by enlarging them, and that the strap could run entirely under the handle if desired. However, it is preferred to pass the end of the strap into the interior of the ski pole through a slot **35**. In this manner, a wide range of adjustment may be accommodated while concealing the strap ends.

The handle is essentially an elongated sleeve **33** having generally cylindrical walls **34** and **36** defining an interior shaft receiving bore **28** and an exterior grip surface **18**. But, as an important part of the present invention, the profile of the exterior wall **36** is made to more comfortably and securely support a human hand and restrain the handle against twisting. In this connection the preferred form of the invention provides separate handles for each hand, that is, one for the right hand, and one for the left.

The upper end of the sleeve **33** is closed by an enlarged end portion **37** which extends out over the grip surface **18**. This enlarged extension or projection keeps the hand from being pulled over the top of the handle. The lower surface **38** of the projection is concave to fit adjacent the thumb and index finger (see FIGURE 4) while the upper end **39** of the end portion is convex to afford more protection in case the ski pole is jabbed toward the face. As best seen in FIGURE 4 the enlarged end **37** lays substantially in the contour of the upper end of the fist **13**, combining therewith to present a large area of impact to absorb any blows imparted to the body or head by the ski pole.

Further hand conforming features of the grip surface include a protruding ridge **41** extending longitudinally along one side of the handle, and projecting therefrom. This ridge is formed to engage the fingers of the user's hand and more particularly to fit within the crotch made by the inside second joint of the fingers. When the skier is using the handle this ridge gives him a reference line to help orient the hand on the handle and also provides a means to keep the handle from rotating within his hand.

Similarly, the side of the grip surface substantially diametrically opposite the ridge **41** has a configuration **42** adapted to conform to the palm of the user's hand and which also helps to position the hand and keep the handle from rotating. In addition, the palm conforming projection **42** forms an enlarged cross-section for the handle, under which relieved recesses **29** and **31** are provided.

The handle is preferably made of a moldable rubber to present a soft and "warm" feel to the hand. The elasticity and friction of the rubber also helps to keep the grip on the pole, the shaft receiving bore **28** being made somewhat smaller than the diameter of the pole in such case.

So as not to detract from the smooth flowing lines of the preferred form of the ski pole handle it is contemplated that the mold parting line or "flash" line **43** be incorporated into the general esthetic harmony of the handle. This is achieved, as is clearly shown in the drawings, by running the line **43** along the apex of the first or finger-engaging projecting ridge **41**, thence along the intersection **44** of the convexo-concave and portions **38** and **39** and along the apex of the second or palm-engaging projection **43**.

FIGURE 10 shows another preferred form of handle constructed to include certain desirable functional features, and is designed for this utility in place of the appearance shown the embodiment of FIGURES 1 through 9. Specifically, the embodiment of FIGURE 10 is designed so as to be convertible between a right hand pole and a left hand pole while retaining the other desirable functions of the embodiment of FIGURES 1 through 10.

Referring to FIGURE 10 in greater detail, there is shown a handle means **51** of elongated form adapted to provide a hand hold at one end of a pole **52**, and a flat flexible strap **53** operatively connected to said handle means **51** at longitudinally spaced locations therealong so that the handle means **51** and strap **53** cooperate to provide a loop having a half twist and adapted to engage and restrain the hand of the user. The handle means **51** is formed with an elongated boss **54** located in the area between the spaced locations where the strap enters the handle means.

As here shown, the entry of the lower end of the strap is through a passage **56**, and the upper strap end is brought through or into the handle means through one of a pair of slots **57** and **58** of a passage **59** extending through the handle means. The passage **59** can be formed with the slots, **57** and **58** closed with removable plugs (not shown) so that the unused slot may be kept closed, if desired. The strap has reinforced openings **61** which can be used to adjust and fasten the strap ends internally as in the embodiment of FIGURES 1 through 9 alternatively the strap and may be fastened by any other suitable means such as the alternate methods shown hereinafter.

When it is desirable to convert the pole from the form adapted for use with one hand to the other, the upper strap end is merely removed and changed at its entry from slot **57** to slot **58** or reverse as the case may be. This effects a change between the position shown in regular lines and the position shown in phantom in FIGURE 10. The length of the strap is adjusted by fastening through the desired selected holes **61** and the half twist of the strap is provided to give the loop the desired size and shape. Although the strap is only shown in part in FIGURE 10 and also in FIGURES 11, 12, 13 and 15, it should be understood the entire strap is formed into a loop as shown in FIGURES 1 through 9 and 14.

It will be noted that the embodiment of FIGURE 10 also has an enlarged upper end **62** formed to provide a backwardly extending lobe **63** constructed to fit within the V-shaped area of the user's hand between the thumb and index finger. It should be noted that this lobe is positioned properly for either hand, when the strap end is changed. In this way, the lobe is maintained in a fixed position wtih respect to the handle means and formed integrally therewith to provide a strong construction.

FIGURE 11 shows an alternate attachment for the upper and lower strap which could be used in either the embodiment of FIGURES 1 through 10 or the embodiment of FIGURE 11. In fact, it should be appreciated that various different attachments and other designs may be combined in ways other than those shown, and that the specific structures shown are suitable for different forms. Thus FIGURE 11 shows a hollow shaft, handle means **66** in telescoped position over the shaft, and a flat flexible strap **67** attached to the handle at spaced locations. The strap is of sufficient length to form the desired loop wtih a half twist as described above, and the handle means contains a lobe **68** and boss **69** for providing the function discussed above for the corresponding structures in the other forms. However, a recess **71** is provided under the boss to receive the strap end **72**, ig desired.

The pole **64** is of special construction, but easily fabricated from a hollow shaft. One of the important features is the formation of a rounded top **73** formed by crimping over the upper end of the hollow shaft. It should be noted that this rounded top is also shown in FIGURE 5. Heretofore, a wooden plug was used to anchor the straps ends on the top of the pole, and the plug prevented cutting. This crimped end has the advantage of keeping the shaft from cutting into the rubber handle means.

The pole **64** also is constructed with a slit **74** extending from the top along a wall of the shaft, with the slit formed to receive the upper end of the strap and hold it by gripping an enlarged end **76** thereof. The shaft may also have an opening **77**, this opening may be formed in any usual fashion, but a preferred construction is formed by pushing in a tab **78** when it is desired to hold the lower strap end within the shaft as shown in FIGURE 11. As there shown, the lower strap end is anchored by

special screw **79** which has an angular top for adjusting and retaining the engagement of the strap and thus adjust the length thereof.

The forms shown in FIGURES 12 through 15 show various simple forms which utilize the main concept of the invention and are designed to serve the children's and allied markets. Thus FIGURE 12 shows a hollow pole **81** having a handle means **82** telescoped thereover, and a flexible strap **83** held in separated and concealed position to the handle. The handle means **82** is formed in a conventional way except that it has passages **84** and **86** and recesses **87** and **88** formed for the purpose of the equivalent passages and recess described for the embodiment of FIGURES 1 through 9. The strap ends are held directly to the shaft by means of screws **89** with the upper screw also holding wooden plug **91**.

FIGURE 13 shows another form of handle means **92** adapted to fit over the end of a suitable pole (not shown) and a strap **93** fastened directly to the handle means at spaced locations through screws **94**, which are anchored into the handle means. The handle means may be constructed with suitable reinforcing means (not shown) to provide good holding action. It should be noted that the upper fastening allows different angular relations between the strap and the handle means to be assumed by the unrestricted swivel connection. The important construction being the separation of the strap which is long enough to circumscribe a major portion of the wrist and a half twist therein.

The embodiments of FIGURES 12 and 13 may be made to be somewhat adjustable as to loop length, but any major adjustment would cause extra long strap ends to be present at the handle in FIGURE 13 and not possible in FIGURE 12. Thus FIGURE 14 shows a handle means **96** similar to that of FIGURE 13, but with a buckle **97** utilized to adjust the length of strap **98**. This buckle is probably not necessary in children's grips because adjustment is minimal, and in such cases, it is preferred not to use it.

Another simple form incorporating the major concepts of this invention is shown in FIGURE 15 where a handle means **99** is shown on a shaft **101**, with the handle means equipped with separated and half twisted flat strap **102** secured to the handle by means of screws **103**. In this form, the screws **103** are shown extending through both the handle means **99** and the shaft **101** in order to illustrate a variation of fastenings within the ambit of the invention. It should be noted that FIGURES 14 and 15 may also be constructed with the swivel fastening of FIGURE 13, or it may be secured in adjusted angular position.

From the foregoing description, it is seen that I have provided a handle for ski poles and the like which affords improved comfort and safety to the user, which incorporates a retaining strap in a manner wherein the handle is retained in close proximity to the hand even though temporarily dislodged, and which interposes a grip surface between the strap ends, with hand conforming projections.

What is claimed is:

1. A handle for ski poles or the like comprising handle means of elongated form adapted for providing a hand hold at one end of a pole, and a flat flexible strap operatively connected to said handle at longitudinally spaced locations therealong, said strap being held to cooperate with the handle means between the spaced locations thereon to form a loop having an effective length sufficient to circumscribe a major portion of the wrist of a user when the user's hand is in gripping position on the handle, said loop portion of the strap being held in a half twist and having the lower end thereof entering the handle means under the hand of the user when the user's hand is in gripping position.

2. A handle for ski poles or the like as described in claim **1**, in which the length of the strap section of said loop is greater than 7½ inches long and less than about 16 inches.

3. A handle for ski poles or the like as described in claim **2**, in which the length of the strap section of the loop is between about 8½ and 14 inches.

4. A handle for ski poles or the like as described in claim **1**, in which the separation of the strap on the handle means is less than the width of the user's hand, and the handle means is formed with a gripping surface cooperating with said separation for enabling the user to grip the pole with the lower end of the strap entering the handle under the palm of the user's hand to provide a cradle for the hand and wrist of the user.

5. A handle for ski poles or the like as described in claim **4**, in which the ends of the loop portion of the strap are separated by a distance between 1½ and 3 inches.

6. A handle for ski poles or the like as described in claim **1**, in which the handle is formed on a hollow shaft and in which the handle means is in the form of an elongated hollow tubular member adapted to be removably mounted on the shaft, and the shaft has a slot in the upper end thereof for holding an end of the strap, said strap end being enlarged to provide an anchor in said slot.

7. A handle for ski poles or the like as described in claim **1**, in which the handle means has an elongated boss located in the space between the strap ends to fit the palm of the hand of the user and hold the handle and pole against twisting with respect to the hand.

8. A handle for ski poles or the like as described in claim **7**, in which the boss is formed with a recess to accommodate a strap end.

9. A handle for ski poles or the like as described in claim **1**, in which a pair of slots are provided in the handle means in position to receive the upper end of the strap, said strap being attached through one of said slots at a time and removable so as to be positionable in either slot for right or left handed use.

10. A handle for ski poles or the like as described in claim **1**, in which the upper strap is attached to anchor with the handle at a distance from the upper end sufficient to allow the user's thumb to fit between the strap and the upper end of the handle.

11. A handle for ski poles or the like as described in claim **1**, in which the handle means has a channel extending below the lower connection of the strap to the handle means for allowing a section of the strap to fit within the handle means and provide a substantially regular contour to the handle means at the palm engaging area thereof.

12. A handle for ski poles or the like as described in claim **1**, in which the handle is formed on a hollow shaft, said shaft being formed with a rounded top for providing a thrust surface against the handle means and preventing the hollow shaft from cutting into the handle means.

13. A handle for ski poles or the like as defined in claim **1**, in which the handle is formed on a hollow shaft, said shaft being formed with a pair of recesses for receiving the strap ends.

14. A handle for ski poles or the like as described in claim **1**, in which the upper strap is fastened to the grip in a manner permitting angular adjustment.

15. A handle for ski poles or the like as described in claim **14**, in which the upper strap is fastened with a swivel connection.

16. A handle for ski poles or the like as described in claim **1**, in which the length of the strap section of the loop is greater than about 9½ inches.

17. A handle for ski poles and the like comprising handle means of elongated form adapted for providing a hand hold at one end of a pole, and a strap, said handle means including a grip having a palm engaging surface, and an enlarged end at the top thereof providing a greatly enlarged impact area at the top of the handle, said strap being connected on the handle at a distance below the enlarged end of the grip, and said enlarged and extend-

ing rearwards to an extent greatly exceeding any forward and sideward extension, whereby the V-shaped portion of the user's hand formed by the junction of the thumb thereof will fit under and adjacent to the enlarged end and above the strap.

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BENJAMIN HERSH, *Primary Examiner.*

MILTON L. SMITH, *Assistant Examiner.*