A mobility aid having interchangeable features is disclosed. A plurality of handles, shafts, and/or tips are provided of different shapes, sizes, and materials so that different users can select different features based on preference or changing support needs. Each handle and each tip is connectable to each of the provided shafts so that a user may switch out handles or tips as desired. Also disclosed is a shaft for a mobility aid having an upper portion and a lower portion with a telescoping relationship and a locking device, such as a rocking or rocker switch, interposed therebetween. The locking device allows the mobility aid to be locked into a fully expanded position, released for a semi-collapsed position, or released into a fully collapsed position.
BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to mobility aids such as canes, walkers, trek poles, walking sticks, walking poles and the like, and particularly relates to mobility aids that may have interchangeable handles, shafts, and tips, and that may incorporate a collapsibility feature.

2. Discussion of the Related Art

It is well understood that the present population distribution includes a disproportionately large number of people in middle age and/or approaching old age. It is also understood that this demographic has disposable income in quantities heretofore unknown, which has allowed its members to become accustomed to choices and amenities, even in medical equipment.

As a result, when this population is faced with the disabilities that sometimes come with age, if its members have a choice between, for example, a standard cane such as those typically available at medical supply houses, and a cane having interchangeable features and convenience features, many are more likely to choose the latter, even if it is notably more expensive than a standard cane. More importantly, for many members of this generation, the provision of choices and convenience features may increase compliance with use of mobility aids when medically indicated. An increase in compliance results in a decrease in injuries caused by non-compliance.

Mobility aids including canes, tri- or quad-canes, walkers, rollators, trek poles, walking sticks, walking poles, and others provide additional walking support to a user during recovery from an injury or medical procedure, or simply when additional support is deemed prudent. Each type of mobility aid is useful for particular circumstances but not for others, and various features are available for many different circumstances.

For example, a person may require a standard cane with a rubber tip for walking around the house but a more sustained walk, such as a trip to the mall, may require additional support in the form of a cane with a quad-tip (a quad-cane). Likewise, different handles may suit different personalities or different circumstances. A standard cane having a rounded handle may be difficult for some users to grasp, while a T-shaped or Y-shaped handle may be better suited to different applications. Furthermore, on a trip to the supermarket, for example, the user may not need a mobility device at all since he or she typically has a cart.

What is needed is a mobility aid with interchangeable features so that a user can construct a mobility device that is right for him or her individual preferences. Additionally, the user can interchange features as circumstances dictate or collapse the device when desired.

SUMMARY OF THE INVENTION

A mobility aid typically includes at least a handle, an elongated shaft, and a tip. In one aspect of the mobility aid of the present invention, a plurality of handles, a plurality of shafts, and a plurality of tips are provided. The plurality of handles and tips preferably included handles and tips of different shapes, sizes, and materials so that different users can select a different handle and/or tip based on preference or changing support needs. Each handle and each tip is connectable to each of the shafts so that a user may switch out handles or tips as desired.

In another aspect of the invention, the shaft of the mobility aid is comprised of an upper portion and a lower portion having a telescoping relationship to one another. A locking device, such as a rocking or rocker switch, is interposed between the upper portion and lower portion to maintain the mobility aid in its fully expanded position or release the two portions from one another such that they may be telescopically moved to a collapsed position, such as a half-height position for storage or to various height positions between fully expanded and fully collapsed to accommodate varying user heights.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred exemplary embodiments of the invention are illustrated in the accompanying drawings, in which like reference numerals represent like parts throughout, and in which:

FIG. 1 is a perspective view of a preferred embodiment of the mobility aid of the present invention;
FIG. 2 is a perspective view of a variety of handles that may be used in connection with the mobility aid shown in FIG. 1;
FIG. 3 is a perspective view of a variety of elongated shafts that may be used in connection with the mobility aid shown in FIG. 1;
FIG. 4 is a perspective view of a variety of tips that may be used in connection with the mobility aid shown in FIG. 1;
FIG. 5 is a detailed perspective view of one embodiment of a connection feature as contemplated by the present invention;
FIG. 6 is a partial cross-sectional view of the connection feature shown in FIG. 5;
FIG. 7 is a perspective view of one embodiment of a height adjustment and collapsibility feature that may be incorporated into the mobility aid of the present invention;
FIG. 8 is a partial cross-sectional view of the collapsibility feature shown in FIG. 7;
FIG. 9 is a perspective view of another embodiment of the present invention having a height adjustment and collapsibility feature that may be incorporated into the mobility aid; and
FIG. 10 is a partial cross-sectional view of the height adjustment and collapsibility feature of the mobility aid shown in FIG. 9.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIG. 1, a mobility aid 20 in accordance with the present invention may be in the form of a cane. However, it should be noted that the features of the present invention may apply equally to walkers, rollators, trek poles, walking sticks, walking poles, and other mobility aids. Mobility aid 20 has a handle 22, an elongated shaft 24, and a tip 26 for making contact with the ground, floor, or other supporting surface. Mobility aid 20 further comprises connection areas A, B for interchangeable connection of different handles 22, shafts 24, and tips 26. As seen in FIGS. 2-4, a variety of handles 22, shafts 24, and tips 26 may be provided, each having different features and advantages.
Referring to FIGS. 2-4, it can be seen that each handle 22 includes an insertion stem 22a for connection with an aperture 24a of shaft 24. Likewise, each tip 26 includes an insertion stem 26b for connection with an aperture 24b of shaft 24.

FIGS. 5 and 6 show one embodiment of a connection between handle 22 and shaft 24 of the present invention, in which handle 22 has a distal end that defines the insertion stem 22a. A detent 28 is provided on handle 22 to adjacent insertion stem 22a. Detent 28 is designed to match and interconnect with ball retainers 30, which are in turn held adjacent to shaft 24 and connection aperture 24b by way of a spring biased inner collar 32. An outer, retractable collar 34 is provided around inner collar 32 for secure locking of the shaft 24 to insertion stem 22a of handle 22. The collar arrangement releases and connects the interchangeable parts, and a similar connection may be used for the connection of shaft 24 to stem 26b of tip 26.

Turning now to FIGS. 7 and 8, a height adjustment and/or collapsibility feature of the present invention is shown and described in one of its embodiments. Shaft 24 has an upper portion 36 and a lower portion 38, wherein lower portion 38 is sized to be insertable into upper portion 36. A push button rocker 39 is interposed between upper portion 36 and lower portion 38 so that a push button 40 of rocker 39 is exposed as seen in FIG. 7. As seen in FIG. 8, push button 40 pivots on a vertex 42 to selectively disengage a locking button 44 from one of a series of apertures 46 in lower portion 38. Lower portion 38 can thus be locked into position at any height for which an aperture 46 is provided, simply by manual actuation of button 40. A locking ring 48 having a tab 50 or other tightening apparatus is provided to maintain a secure and solid connection between upper portion 36 and lower portion 38.

Another manner of adjusting or collapsing mobility aid 20 is shown in FIGS. 9 and 10, and like reference characters will be used to facilitate clarity. Upper portion 36 and lower portion 38 are again sized to fit within one another, and lower portion 38 includes apertures 46 into which a locking button 44 activated by a push button 40 is engaged. Release of push button 40 allows lower portion 38 to slide freely within upper portion 36, providing the adjustability and collapsibility feature of the present invention with a spring loaded rocker switch.

Along the same lines, shaft 24 could be comprised of an upper portion 26, a mid portion (not shown), and a lower portion 38 to allow for maximum collapsibility for storage or travel purposes.

The embodiments described herein explain the best known mode of practicing the invention and will enable others skilled in the art to utilize the invention, but should not be considered limiting. Rather, it should be understood that the invention is not limited to the details of construction and arrangements of the components set forth herein, but is capable of other embodiments and of being practiced or carried out in various ways, and all such modifications and variations are within the scope of the claims set forth below. Further, various elements or features discussed or shown herein may be combined in ways other than those specifically mentioned, and all such combinations are likewise within the scope of the invention.

1. A mobility aid comprising:
   a plurality of elongated shafts, each having a top connection portion and a bottom connection portion,
   a plurality of handles having connection portions for mating connection with the top connection portion of one of the shafts; and
   a plurality of tips having connection portions for mating connection with the bottom connection portion of one of the shafts.

2. A mobility aid comprising:
   a handle, an elongated shaft, and a tip, wherein the elongated shaft is extendable and collapsible.

3. The mobility aid of claim 2, wherein the shaft is comprised of an upper portion and a lower portion and is extendable and collapsible by way of telescoping extension and insertion of one of the upper or lower portion out of and into the other of the upper or lower portion.

4. The mobility aid of claim 3, wherein the upper portion and lower portion are locked into position and released from a locked position by way of a push button rocker device.

5. The mobility aid of claim 2, wherein the shaft is comprised of an upper portion, a middle portion, and a lower portion, and is extendible and collapsible by way of telescoping extension and insertion between the three portions.

6. A method of configuring a mobility aid, comprising the acts of:
   providing an elongated support member having a top connection portion and a bottom connection portion,
   providing a plurality of handles, each of which has a connection portion for mating connection with the top connection portion of the support member,
   providing a plurality of tips, each of which has a connection portion for mating connection with the bottom connection portion of the support member,
   selecting a handle from the plurality of handles and selecting a tip from the plurality of tips; and
   engaging the selected handle with the support member using the handle connection portion and the top connection portion of the support member, and engaging the selected handle with the support member using the tip connection portion and the bottom connection portion of the support member.

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