A cane is disclosed that includes a handle having a lower protrusion; a shaft having a top projection matedly secured to a bottom recess of the protrusion; and a sleeve adapted to securely put on the protrusion, an upper portion of the shaft, or a joining portion of the protrusion and the upper portion of the shaft. The invention can increase structural strength of the cane.
FIG. 1
(PRIOR ART)
CANE WITH ENHANCING SLEEVE PUT ON A JOINING PORTION OF HANDLE AND SHAFT

BACKGROUND OF THE INVENTION

[0001] 1. Field of Invention

[0002] The invention relates to devices for aiding a user to walk, and more particularly to a cane with enhanced structural strength by providing a sleeve securely put on a joining portion of a bottom of the handle and a mating top of the shaft.

[0003] 2. Description of Related Art

[0004] Cane devices are particularly useful for, for example, the elderly or mountain climbing, as means for aiding in walking. Typically, most weight of the user is borne upon the cane while walking.

[0005] Conventionally, a cane comprises a horizontal handle and an elongate shaft. It is typical for the handle and the shaft to be manufactured separately prior to assembling together for the purpose of simplifying the manufacturing process.

[0006] A longitudinal sectional view of a conventional cane is shown in FIG. 1. The cane is shaped as a “T” and comprises a handle A having a recess C on its bottom, and an elongate shaft B having a projection D on its top. The projection D is dimensioned and shaped to insert into the recess C prior to being secured together by, for example, gluing.

[0007] However, the well known cane suffers from a disadvantage. For example, its structural strength is weak in view of the fact that the fastening at the joining point of the projection D and the recess C is prone to breaking due to external force exertion.

[0008] There have been numerous suggestions in prior patents for canes. For example, U.S. Pat. No. 6,341,614 discloses a collapsible cane. Thus, continuing improvements in the exploitation of cane are constantly being sought.

SUMMARY OF THE INVENTION

[0009] It is therefore one object of the invention to provide a cane with enhanced structural strength by providing a sleeve securely put on a joining portion of a bottom of the handle and a mating top of the shaft.

[0010] In one aspect of the invention the sleeve is adapted to conceal the joining portion so as to prevent same from deforming or damaging due to external force exertion, thereby protecting the cane.

[0011] In another aspect of the invention the sleeve is made of metal or plastic and is aesthetic.

[0012] The above and other objects, features and advantages of the invention will become apparent from the following detailed description taken with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. 1 is a longitudinal sectional view of a conventional cane;

[0014] FIG. 2 is a perspective view of a first preferred embodiment of cane according to the invention;

[0015] FIG. 3 is an exploded view of the joining portion of the handle and the shaft of FIG. 2;

[0016] FIG. 4 is a longitudinal sectional view of the joining portion of FIG. 3;

[0017] FIG. 5 is a longitudinal sectional view of the assembled joining portion of FIG. 4;

[0018] FIG. 6 is a longitudinal sectional view of an assembled joining portion of handle and shaft of a second preferred embodiment of cane according to the invention; and

[0019] FIG. 7 is a longitudinal sectional view of an assembled joining portion of handle and shaft of a third preferred embodiment of cane according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0020] Referring to FIGS. 2 to 5, a cane in accordance with a first preferred embodiment of the invention is shown. The T-shaped cane comprises a handle 10, a shaft 20, and a sleeve 30 securely put on a joining portion of a bottom of the handle 10 and a mating top of the shaft 20. Each component is discussed in detail below.

[0021] The handle 10 comprises a grasping portion 11 and a bottom protrusion 12.

[0022] The handle 10 can be shaped other than shown. For example, the handle 10 can be shaped as a hook or a cylinder depending on applications.

[0023] The shaft 20 is elongate and has a sufficient length so as to aid a user to walk. The shaft 20 can have a fixed length or can be made as collapsible (i.e., telescopic).

[0024] The sleeve 30 is a hollow cylindrical member and is adapted to be put on a joining portion of the protrusion 12 and a mating top of the shaft 20 as detailed later.

[0025] Referring to FIGS. 3, 4 and 5 specifically, a coupling of the protrusion 12, the shaft 20, and the sleeve 30 is shown in which, as an exemplary example, the protrusion 12 comprises a bottom recess 121, the shaft 20 comprises an upper portion 202 of reduced diameter and a projection 201 on a top of the upper portion 202, the sleeve 30 is dimensioned and shaped to fit snugly onto the upper portion 202, and the projection 201 is dimensioned and shaped to insert into the recess 121 prior to being secured together by, for example, gluing.

[0026] Note that the upper portion 202 and thus the shaft 20 are protected by tightly putting the sleeve 30 on the upper portion 202.

[0027] Referring to FIG. 6, a cane in accordance with a second preferred embodiment of the invention is shown. The characteristics of the second preferred embodiment are detailed below. The sleeve 30 has an upper extension which is adapted to fit onto a lower portion of the protrusion 12 of reduced diameter so that a joining portion of the protrusion 12 and the upper portion 22 is protected. The second preferred embodiment aims at further preventing the joining portion of the protrusion 12 (i.e., the handle 10) and the upper portion 22 (i.e., the shaft 20) from deforming or damaging due to external force exertion.

[0028] Referring to FIG. 7, a cane in accordance with a third preferred embodiment of the invention is shown. The characteristics of the third preferred embodiment are detailed below. The lower portion of the protrusion 12 is provided without a reduced diameter and the shaft 20 is provided without the upper portion of reduced diameter. That is, the protrusion 12 has a diameter the same as that of the shaft 20. Also, the sleeve 30 is adapted to fit onto a lower portion of the protrusion 12 and an upper portion of the shaft 20 for fastening.

[0029] In one configuration of the third preferred embodiment the sleeve 30 is adapted to put on only the upper portion of the shaft 20. In the other configuration of the third preferred embodiment the sleeve 30 is adapted to put on only the lower portion of the protrusion 12.
Preferably, the sleeve 30 is made of metal or plastic and is aesthetic.

While the invention herein disclosed has been described by means of specific embodiments, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope and spirit of the invention set forth in the claims.

What is claimed is:

1. A cane comprising:
   a handle including a grasping portion and a lower protrusion;
   a shaft having a top matingly secured to a bottom of the protrusion; and
   a sleeve adapted to securely put on the protrusion, an upper portion of the shaft, or a joining portion of the protrusion and the upper portion of the shaft.

2. The cane of claim 1, wherein the sleeve is adapted to securely put on the upper portion of the shaft.

3. The cane of claim 1, wherein the sleeve is adapted to securely put on the joining portion of the protrusion and the upper portion of the shaft.

4. The cane of claim 1, wherein the sleeve is adapted to securely put on the protrusion.

5. The cane of claim 1, wherein the upper portion of the shaft has a reduced diameter, and the sleeve is adapted to securely put on the upper portion of the shaft.

6. The cane of claim 1, wherein a lower portion of the protrusion has a reduced diameter, and the sleeve is adapted to securely put on the lower portion of the protrusion.

7. The cane of claim 1, wherein the upper portion of the shaft has a reduced diameter, a lower portion of the protrusion has a reduced diameter, and the sleeve is adapted to securely put on the upper portion of the shaft and the lower portion of the protrusion.

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