A storage device to be attached to a crane or crutch is presented. The storage device is specifically designed to hold a water bottle along the shaft of crane or crutch such that it is easily accessed and securely fastened.
WATER BOTTLE HOLDER FOR CRUTCH

RELATED APPLICATIONS
[0001] This is a Continuation-in-Part of application Ser. No. 12/165,920, currently co-pending.

FIELD OF THE INVENTION
[0002] This invention relates to the area of human mobility support devices, especially canes, crutches, supports, and the like.

BACKGROUND OF THE INVENTION
[0003] Injured people who need walking support are often issued crutches by emergency rooms and hospitals to support them when they walk on an injured leg. The crutch or cane has no means to carry other items or store things.
[0004] Article holders that are attached to artificial devices used to assist a user in walking are known. For example, U.S. Pat. No. 3,985,148 to Cadman describes an attachment to a crutch having a compartment with a flat side and an opposite hinged side.
[0005] In U.S. Pat. No. 4,146,045 to Grant a crutch carrying attachment has outwardly opening grooves which engage the side rails of the crutch to secure the attachment. The patent (U.S. Pat. No. 5,056,545) to Spach describes a walking cane with a resilient clip for holding a water bottle.
[0006] In the invention by Sigsworth (U.S. Pat. No. 5,526,836) a bag is attached to a crutch by straps which fit around the crutch’s handgrips. The present invention relates to a removable cup holder attachment used with a crutch that can easily be removed by turning a hand operated nut as more further set forth in this specification. A patent to Nipper, et al. U.S. Pat. No. 5,803,327, discloses a crutch cup holder.

SUMMARY OF THE INVENTION
[0007] The present invention is a plastic device that holds a water bottle and attaches to a crutch or cane to allow users to have access to water without impeding their ambulating. The invention is recycle-able, light weight and made of polypropylene plastic.
[0008] The invention is comprised of two parts that allow a 500 ml water bottle to be securely attached to a cane or crutch. The two separate parts are made of polyurethane in the preferred embodiment, allowing the user the flexibility to apply pressure to secure the devices on a cane or crutch using a simple wing nut and screw.
[0009] The upper clamp controls the water bottle around the neck using a snapping in effect requiring a small amount of force to secure it in position. The circular lower clamp gives the water bottle additional support at the base. The lower clamp is designed to allow the water bottle to rest inside of the circle with enough support to prevent the water bottle from swinging.
[0010] The invention was made to fit a standard 3/4” diameter shaft cane. Standard crutches are 5/8”, so accommodate this difference, a 1/8” thick insert is provided. The insert in the preferred embodiment is a clear plastic, and it wraps around the crutch or cane to add to a crutch’s diameter.

BRIEF DESCRIPTION OF THE DRAWINGS
[0011] FIG. 1. is a top view of the upper clamp
[0012] FIG. 2. is a perspective view of the upper clamp

[0013] FIG. 3 is a side cross-section view of the upper clamp
[0014] FIG. 4 is a edge on view of the upper clamp
[0015] FIG. 5 is top view of the bottom clamp
[0016] FIG. 6 is a perspective view of the bottom clamp
[0017] FIG. 7 is a cross section view of the bottom clamp
[0018] FIG. 8 is an edge on view of the bottom clamp
[0019] FIG. 9 is a top view of the spacer
[0020] FIG. 10 is a perspective view of the spacer

DETAILED DESCRIPTION

[0021] The invention is comprised of an upper clamp 101, a bottom clamp 110, and an insert 103. As in FIG. 5 through 8, the upper clamp 101 is a solid piece of plastic material with a grasping opening 104, an attachment opening 105, a body 106, and two attachment holes 107.
[0022] The upper clamp 101 is designed to be attached to the shaft of a cane or crutch. The upper clamp 101 attaches to a cane or crutch shaft by means of wrapping the attachment opening 105 around the shaft and passing a standard screw 116 through the two attachment holes 107 and tightening a standard wing nut 115 on the end of the screw. The flexible attachment opening 104 is made to grip the shaft by means of screw pressure.
[0023] As in FIG. 1 through 4, The lower clamp 110 is a solid piece of plastic material with a bottle support 111, an attachment opening 112, a body 113, and two attachment holes 114.
[0024] The lower clamp 110 is designed to be attached to the shaft of a cane or crutch. The lower clamp 110 attaches to a cane or crutch shaft by means of wrapping the attachment opening 112 around the shaft and passing a standard screw 116 through the two attachment holes 114 and tightening a standard wing nut 115 on the end of the screw. The flexible attachment opening 112 is made to grip the shaft by means of screw pressure.
[0025] The invention is used by positioning the upper clamp 101 and lower clamp 110 along the shaft of a cane or crutch in such a manner that an industry-standard 500 ml water bottle can be held between them. The bottom of the bottle will rest inside the circular bottle support 111 and the neck of the water bottle will be held by the grasping opening 104 by means of friction on the neck of the bottle as it is inserted into the grasping opening 104.
[0026] Because cane shafts can be approximately 1/8" thicker than crutch shafts, the invention also includes a thin, 1/8" sheet of plastic to use as an insert 103 around a crutch shaft, so that the upper clamp attachment opening 105 and the lower clamp attachment opening 112 will grip the shaft more tightly. A typical insert is shown in FIGS. 9 and 10.
[0027] In the preferred embodiment, the plastic material comprising the upper 101 and lower clamps 110 is polyurethane. The insert 103 is a flexible, clear plastic.
[0028] While the foregoing describes a preferred mode and an alternate embodiment, variation on this design and equivalent methods may be resorted to in the scope and spirit of the claimed invention.

1. What is claimed is water bottle holder, the water bottle holder comprised of an upper clamp, a lower clamp, and an insert,
   the lower clamp a solid piece of material, the material shaped with a bottle bottom holder and an attachment opening,
The bottom holder in the shape of a circle with a rim that will fit the bottom of a standard half liter water bottle, the attachment opening a y-shaped extension from the bottom holder, each arm of the y-shape possessing an attachment hole, the upper clamp a solid piece of material, the material shaped with a grasping opening and an attachment opening, the grasping opening in the shape of a yoke sized to fit the neck of a standard half liter water bottle, the attachment opening a y-shaped extension from the grasping opening, each arm of the y-shape possessing an attachment hole, the attachment holes sized to accept a standard screw and wing nut, the attachment opening sized to fit over the shaft of a cane or crutch, the insert a flat piece of plastic material approximately 1/16 inch in thickness.

2. A method of using a water bottle holder as in claim 1, comprised of the steps of attaching the lower clamp to a cane or crutch by means of placing the attachment opening around the shaft of the crane or crutch and inserting a screw and wing nut through the attachment holes, attaching the upper clamp to the cane or crutch by means of placing the attachment opening around the shaft of the crane or crutch and inserting a screw and wing nut through the attachment holes, adjusting the spacing between the lower clamp and the upper clamp so as to accommodate a half-liter water bottle, then inserting said water bottle in the water bottle holder by placing the bottom of the water bottle in the bottle bottom holder and pushing the neck of the water bottle into the grasping opening.

* * * * *