

Licensing and Technology Transfer Opportunity: Manipal University

Title of Technology Available: Multifunctional Cane

Brief Description of Invention:

The innovative design of the Multifunctional three legged cane helps to achieve the one-point contact and three point contact as per the requirement. Three point contact can be adjusted, which made this device suitable for stair climbing. It also able to assist to perform different Activities of Daily Living (ADL) dressing and reaching.

Brief Background of Invention:

To prevent the risk of falling during mobility and increase independence mobility assistive device such as a cane are prescribed commonly to broaden the base of support which improves balance and stability. It also helps redistribute weight from the lower limbs to help alleviate joint pain or compensate for weakness or injury). Most commonly standard cane (One point contact) and quadripod cane (Four-point contact) or tripod (Three-point contact). All this cane has some advantages and some disadvantages. Standard or straight cane improves balance and adjustable, easy to use in staircase but not suitable for weight-bearing and not safe to use in slippery areas like bathroom or washroom. Quadripod or tripod is ideal for a weight-bearing activity like sit to stand from a chair or toilet seat. Stands freely on its own but heavier and difficult to use in staircase and crowded place due to its size. Though all types of cane are available with adjustment facilities adjustment procedure is troublesome. Due to balance issues, older adult also encounters a problem for reaching, retrieving, picking and placing objects. Older adult-use grabber or reacher to compensate for this problem. Older people also used a dressing stick to compensate for reaching during dressing activity. So there was a need for the cane which can use as per requirements for walking, Wight bearing and stairclimbing. Along with these activities, it can use for few ADL activity to reduce the use and carry of multiple assistive devices.

Describe the final product:

The innovative design of the Multifunctional three legged cane helps to achieve the one point contact and three point contact as per the requirement. Three point contact can be adjusted, which made this device suitable for stair climbing. The height of this cane can be adjusted with a set of holes provided to engage as per the user height requirement. This device has a torchlight powered by a battery that provides the user to compensate for visual impairment. The dresser hook provided at the end of the multifunctional cane helps in dressing activity and works as reacher for all reaching activity with unique hooks on each end that are helpful for dressing tasks. A beep alarm is provided in the walking stick to aid the user to ring the bell in case of emergency or crowded place.

Technological Domain (Keywords):

Older Adult, Activities of Daily Living, Assistive Devices, Mobility Aid, Cane, Reacher, Dressing Stick,

Proof of Concept:

This Multifunctional Cane solves the problem for all type of balance issues in the older adult during standing, walking and weight bearing. Client can easily adjust the height and leg/s as per the requirements of different activity using a simple switch. It also will help in other ADL activities. The Multifunctional cane features LED flashlight, which allows a person to walk in the dark with a clear view. An emergency Siren is included to quickly obtain the attention of the public near in case of any emergency.

Stage of Development:

Ready to Market technology

Provide Information on Competitors who manufacture and/or sell similar products: Artificial Limbs Manufacturing Corporation of India, India Medico Instruments.

What are the unique advantages your innovation has compared to the competition:

This device will solve the problem for all type of balance issues in the older adult during standing and walking. This multifunctional cane can be used as one point contact and tripod contact based on requirements. Position of three point contact also can fit on the stair to assist stair climbing. It also will help in other Activities of Daily Living (ADL). One single device will work for a lot of ADL activity. The walking stick also features LED flashlight, which allows the used to walk in the dark with a clear view. An emergency Siren is included to quickly obtain the attention of the public near in case of any emergency.

Intellectual Property Status:

Indian Patent application with number 202041045715 filed in (20th October 2020)