

**Technology**

Remote controlled retractable cane for teaching orientation and mobility

Inventor

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Key Features

- Provides training in the detection and navigation of difficult obstacles
- Conditions the response to the sensation of the drop-off
- Can be controlled remotely by an instructor
- Design concepts include either a motor and lead screw design or a spring design

Stage of Development

Reduced to practice with prototype cane developed

Field

Medical device

- Rehabilitation
- Cane
- Visual impairment

Patent Status

None

Contact

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Remote Controlled Retractable Training Cane for the Visually Impaired (VA Reference No. 06-079)

Novel training cane used to detect and navigate drop-offs and objects in a less threatening, safer learning environment for the trainee

Technology

The Department of Veterans Affairs has developed a remote controlled retractable cane to act as an instructional tool for teaching orientation and mobility to individuals with a visual impairment.

Description

Individual with a visual impairment often navigate through their environment with a long cane and often use a method referred to as the touch technique to detect drop-offs and objects. In the touch technique, the cane is used to sweep an arc that extends one inch beyond the users' shoulders with the cane tapped on the ground at the left and right extremes of the arc. The user's foot should replace the location of the cane contact, and the user should follow this pattern in a rhythm to navigate their environment.

Drop-offs are the most difficult obstacle to detect and the novel retractable training cane was developed to simulate the feel of a drop-off. While using the two-point touch technique with a traditional long cane, the angle between the cane and the body decreases when a drop-off is encountered. The training cane replicates this situation, without the drop-off, by rapidly decreasing in length 6" and can be controlled remotely by an instructor. The decrease in length creates a similar decrease in angle as the standard cane during the drop-off scenario.

Competitive Advantage

The training cane has particular value for individuals with a visual impairment who are older and become visually impaired.

This retractable training cane:

- Eliminates falling risk posed by a curb drop, creating a less threatening, and safer learning environment for the trainee.
- Allows for a better teaching opportunity to condition the response to the sensation of the drop-off.
- Ensures trainees are better prepared by training on actual obstacles.

Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).