



### Technology

Wheelchair caster system used to prevent wheelchair drift

### Inventor

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### Key Features

- Prevents wheelchair drift on sloped surfaces
- Allows users to maneuver the wheelchair without having to disengage the spring-driven forward bias
- Can be installed on any wheelchair that features detachable caster mounts
- Can prevent repetitive strain to the muscles and joints of the arms

### Stage of Development

Reduced to practice with prototype system developed

### Keywords

Assistive device  
- Wheelchair  
- Casters

### Patent Status

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## Wheelchair Caster System (VA Reference No. 06-039)

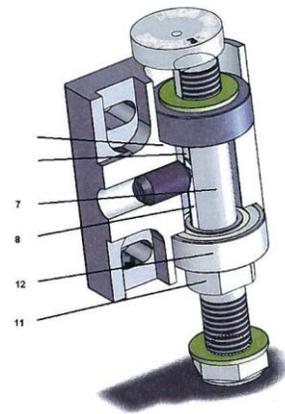
*Novel wheelchair system designed to prevent wheelchair drift on sloped surfaces resulting in less strain on the upper limb of users*

### Technology

The Department of Veterans Affairs has developed a Wheelchair Caster System that can be used to reduce the risk of upper limb pain and injury to manual wheelchair users by decreasing the forces required to traverse a side-sloped surface.

### Description

The novel wheelchair device intends to prevent wheelchair drift, by applying a forward biasing force on the caster wheel, thus lowering the forces required by the downhill limb to maintain a straight path. The Wheelchair Caster System caster mount serves as the attachment point between the caster and the front frame of the wheelchair. Furthermore, the device will allow the caster fork and wheel to rotate allowing the user to steer the wheelchair.



### Competitive Advantage

The forward bias of the developed wheelchair system can be applied or removed by pulling or pushing an easily operated pin, located on the top of the caster mount housing, which contains a spring-loaded ball plunger that protrudes into the cylindrical opening for the stem. The pin has a large cylindrical top, making it easy to grasp for users with reduced hand function.

This Wheelchair caster system:

- Allows adjustment of the biasing force to meet the needs of the user by altering the position of the ball and spring unit.
- Can be installed on any wheelchair that features detachable caster mounts and can receive any standard caster fork and wheel.
- Allows users to turn the wheelchair and makes changes to their path of travel while the system is engaged (not a caster lock but a caster guide).

### 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).