

## Applications

- Walking Device for people with limited mobility
- Stair climbing without external aid

## Advantages

- Comforts elderly and disabled patients with limited mobility
- Ability to traverse stairs as well as level ground
- Cost Effective
- Improved stability on the stairs (no need for additional railing)

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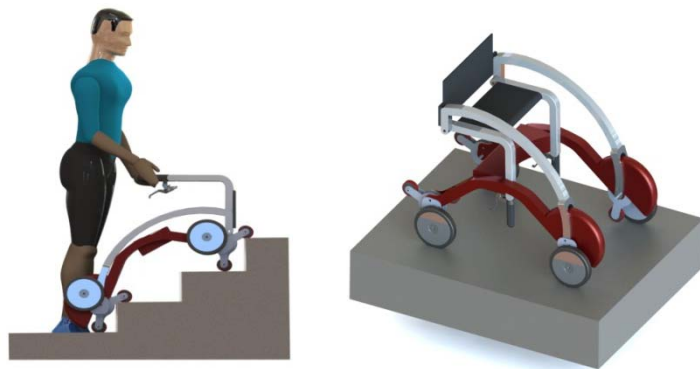
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## Market Need

Currently, mobile assistants are used by the elderly and disabled for day - to - day mobility. The disadvantage with these assistants is that they cannot be used to ascend or descend heights. Instead ramps or stair-lifts are used. Space and cost is a common issue with stair lifts and ramps. Although ramps are becoming commonly used, they are not found everywhere.

## Technology Summary

This is a walking device for people with limited mobility, which contains the ability to traverse stairs as well as level ground. The device contains a centralized drive system and a special wheel design that can recognize and accommodate a variety of stair angles. The wheel base contains a tri-star wheel mechanism designed for rotating as a stair is traversed. The device utilizes an array of sensors to detect stair position and to translate the correct information to the drive system. An additional sensor is used to maintain the correct horizontal position of the handles. Furthermore, the handle system has the ability to rotate into a bench that can be used for sitting or other activities. When the device is not in stair climbing mode, a separate mechanism elevates the device off the tri-star wheel and onto a standard rolling wheel. As a result, the entire device can be pushed along level ground by the user to offer stability.



## Technology Status

U.S and foreign rights are available.

This technology is available for licensing to industry for further development and commercialization.