The StairWalker

Blue A

Walking Aids with Stairs

UCSF Disabilities Statistics Center study on mobility device use:

- **1.8 million** Americans use walkers
- Only 39.3% of mobility device users live in houses with just one floor
- 62.1% of mobility device users must climb steps to get in or out of their homes
- Only 9.6% of mobility device users have added stair-climbing features

Our contact, Luis Loya (Access Planner for Kessler McGuinness and Associates) verifies need for product.

Current Products

Stair lifts:

- Person sits on chair, which then climbs up the side of the wall

Expensive:

- Cheapest are about $2,500

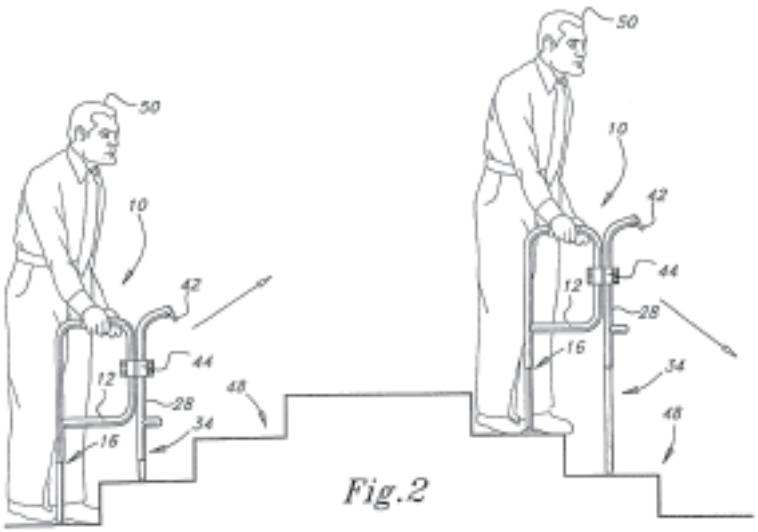
No walker:

- Will not bring up the walker, so person lands on the upper floor without walking aid

Current Products

US Patent 6,453,921B1:

- Retractable legs
- Activated by gripping handle



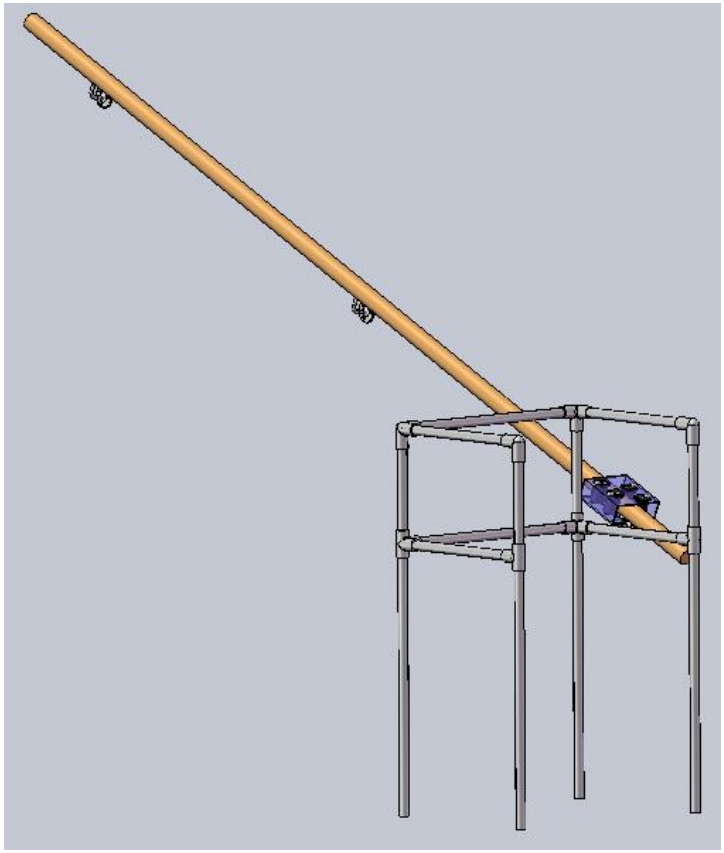
Safety risk → **falling**

- 1/3 of people 65 and older fall at least once a year
- Fear of falling is main fear among elderly, above robbery and financial fears

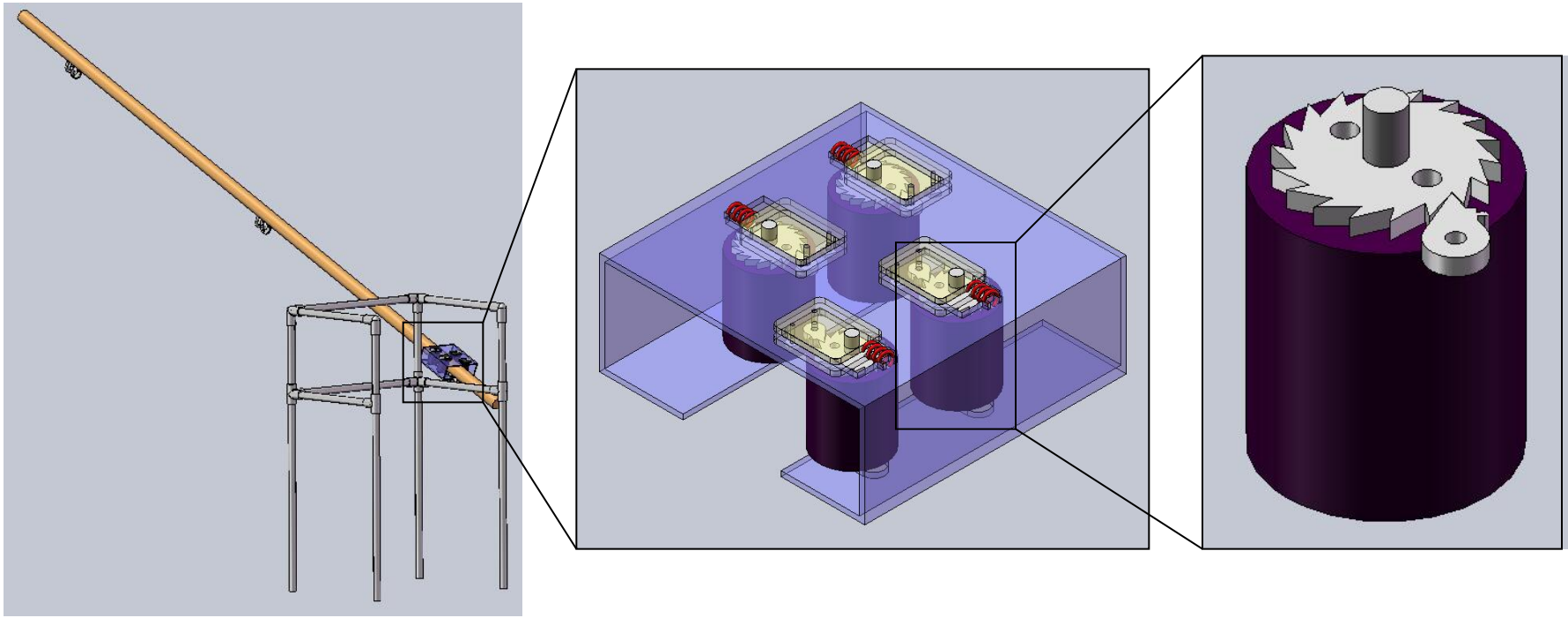
Requires **hand dexterity**, which elderly often don't have

The StairWalker

- Attaches to the railings
- As the user pushes the walker up against the bar, the StairWalker moves up too
- The StairWalker will not fall back down



How It Works



- Walker attaches to a crossbar at the front
- Rubber rollers to firmly grip the railing
- Uses **ratchets** to keep from falling down

Features

- **Safety** – prevents user from falling
- **Mobility** – helps users have full access to their walkers
- Low **cost**
- Requires minimal **installation**

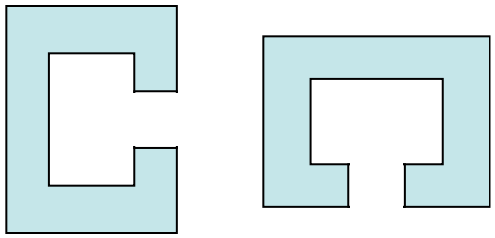
Critical parts:

- Properly compressible rubber rollers to grip rail
- Sliding enough to push it up
- Interfacing with the wall and existing railing

Further Considerations

Range of railing shapes and sizes:

- Attach a baseline track to the railing, sold with the StairWalker.
- The box could clamp onto the railing from the top, or from the side →



Going down stairs:

- Orient the rollers on each side in different directions. Lock one side each time, depending on direction.

For railings that do not start at the first step, include rail extension.

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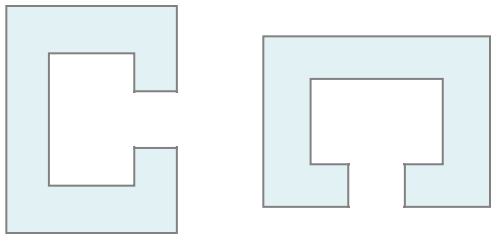

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StairWalker

Can be an aid and asset to the 1.8 million Americans who use walkers.

References

- Kaye, H. Stephen, Taewoon Kang, Mitchell P. LaPlante. "Mobility Device Use in the United States." *UCSF Disabilities Statistics Center*, June 2000 http://dsc.ucsf.edu/publication.php?pub_id=2&section_id=1 (1 October 2008).
- "Use walkers to lower the risk of falling" *India eNews*, 5 February 2008 http://www.indiaenews.com/europe/20080205/95666.htm (1 October 2008).
- Howland, Jonathan, et al. "Fear of Falling among the Community-Dwelling Elderly", *Journal of Aging and Health*, 5, No. 2 (1993): 229-243.
- Rost, Brian M. "Stair walker." US Patent 6,453,921 B1. 24 September 2002.