MULTI-TERRAIN WHEELCHAIR & STANDING GARDENER

Team 2:
Peter George
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Client

- Brenda Stenglein
- Sean Stenglein

Cerebral Palsy

A physical disability which causes lack of control of motor operations due to damage to the cerebrum at birth.
Multi-Terrain Wheelchair Project Objective

- Sean wants to participate
  - Has mental capability, but lacks motor control of his body.

- Goal of Team 2:
  - To provide Sean with a wheelchair device that will be able to give him mobility in sandy and icy conditions.
Previous Work for Wheelchairs

- Lasher Sport, LLC BT-Trail Off-road Wheelchair

- Steven L. Weybrecht’s Patent on All Terrain Wheelchair
Our Design
Features of Our Design: Seat

- “Permanent Seat” on Wheelchair
- Tumble Forms Carrie Seat
Features (cont.): Wheels
Features (cont.): Manual Brakes
Other Features

- Umbrella holder for sunny days.
- Water bottle holder incase Sean gets thirsty.
- Spring loaded snowball thrower.
Our Design
Standing Gardener: Project Objective

- Add features that Sean’s current standing aid does not have.
  - Adjustable size
  - Specifically designed for gardening
- Exercise
  - It is important that Sean gets used to standing to help maintain his muscle mass.
Key Features of Standing Gardener

- Comfort - Size and position.
- Ease of use for Sean and his parents
- Safety
Our Design
Telescopic Frame

- The legs will be able to be lengthened or shortened and locked into place.
Our Design
Support System:
Important Points of Stability

- Chest Support
- Knee Support
- Foot Support
- Strap Support
- Back Foot Support
- Waist Strap
- Knee Support
- Foot Strap
Support System
Materials

- 304 Stainless Steel Tubes and Pipes for Frames.
- 304 Stainless Steel Plates for the workspace of the Standing Gardener.
- Pressure Treated Ply-Wood for covering the workspace.
- Nylon Fabric and High Density foam for padding.
Conclusion

- This design will not only allow Sean to do what he could with his current standing aid but it will increase the ease of all his tasks.

- Sean can be mobile on terrain he could not go on before.
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Questions??