

Tilt₂0

Tilting Watering Can

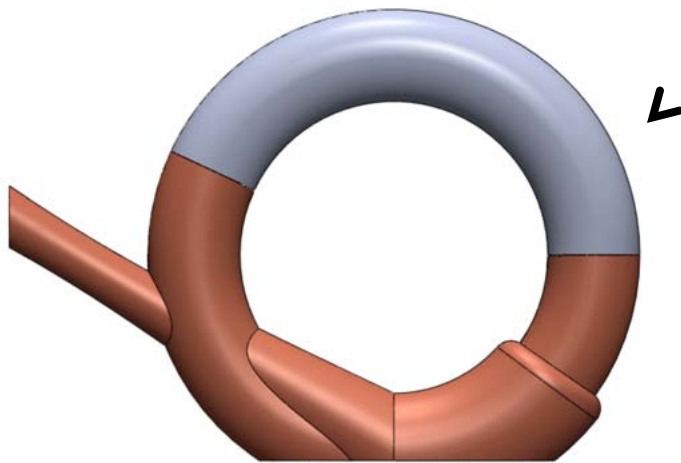
Yellow A

Tilt₂0

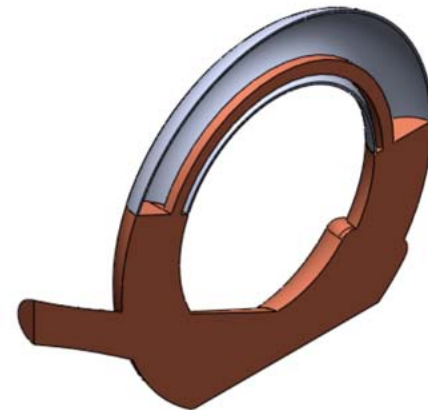
GOAL: Watering can with no torque on wrist

2-part design:

“Can” rotates within stationary handle upon pushing a button



Cutaway view · >



There is a need for Tilt₂0

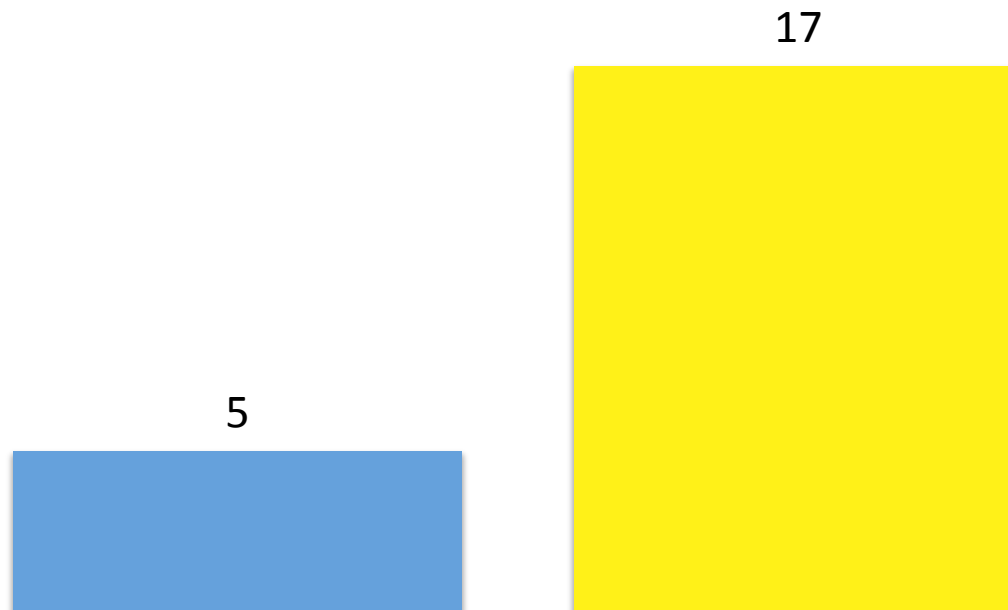
- No torque on wrist
- Portable
- Mechanically superior
- 70% of US households spend time and money on lawns and gardens



There is desire for Tilt₂0

Which would you rather do when using a watering can?

■ Rotate Wrist ■ Press Button



Mechanism Preference



\$30 Million Industry

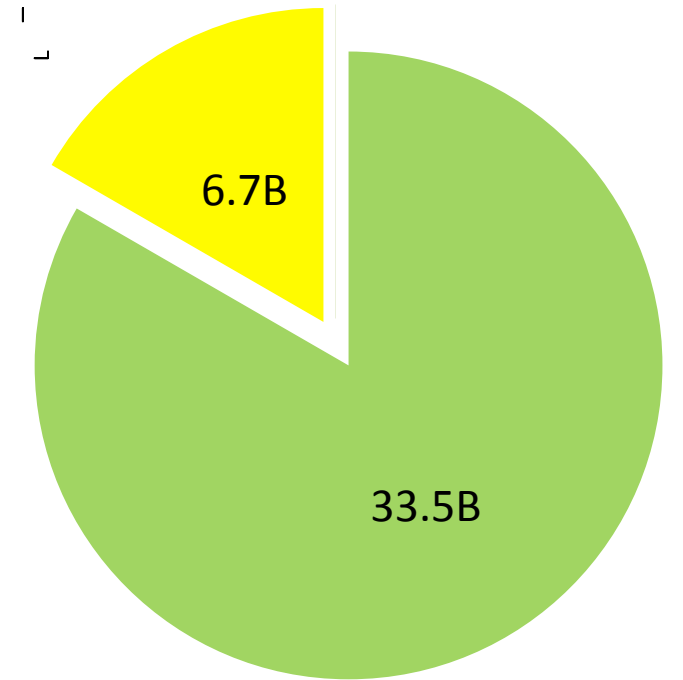
Total Gardening: **33.5B**

Garden Care: **6.7B**

Projected Growth: **7%** per
year (2016)

Watering Can Market: **30M**

70 million households spend
>\$100 yearly on gardening



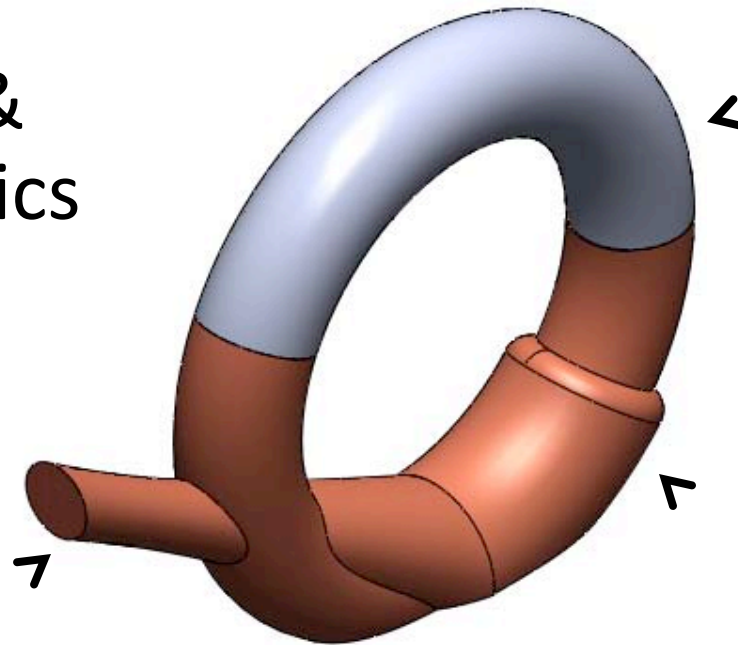
■ Total Gardening ■ Garden Care

Design

1.6L capacity

Packaging & ergonomics

Continuous arc

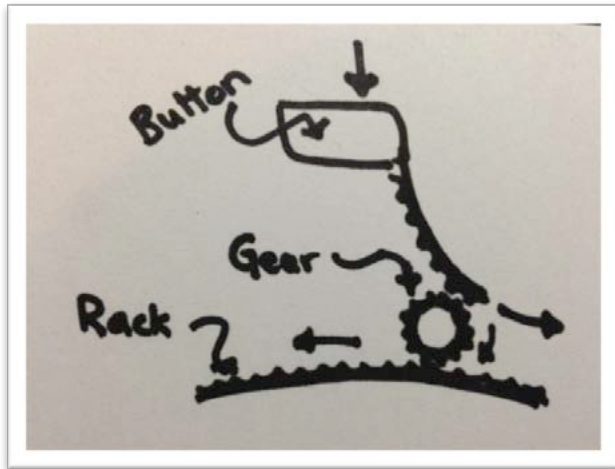


Spout placement and angle

Center of mass

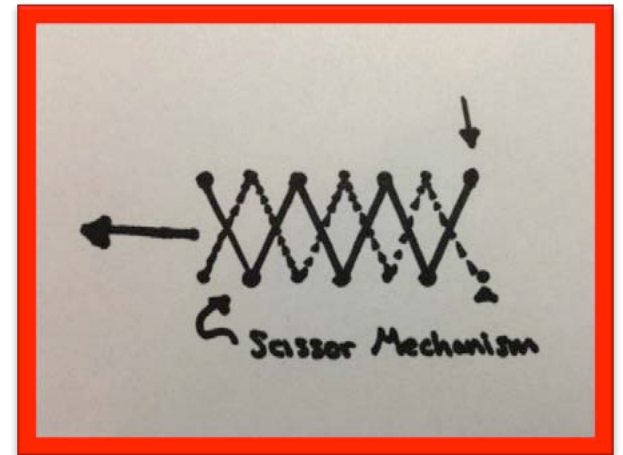


Mechanism

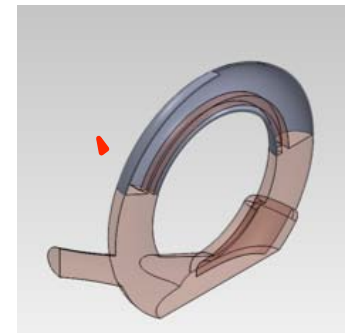
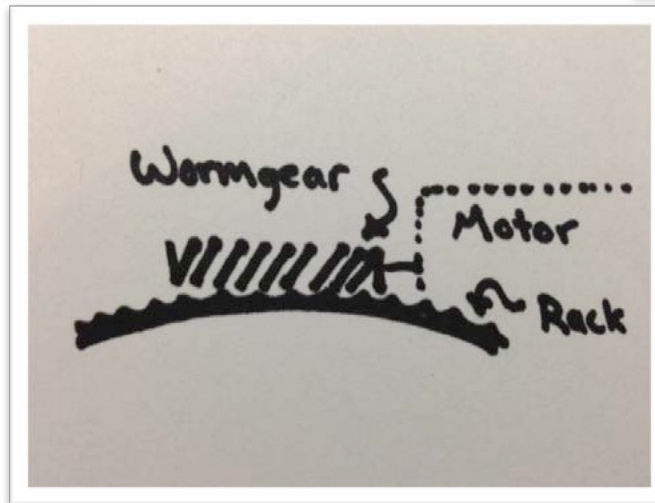


1. Gears & Rack

2. Motor-Powered

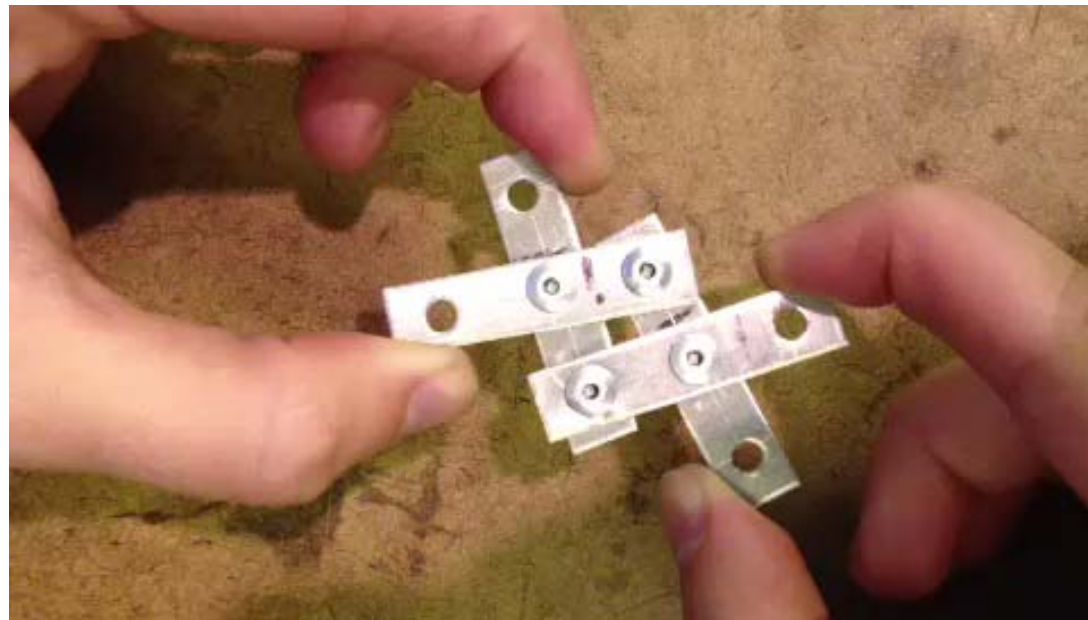


3. Scissor



Sketch Model Testing

- Attaching scissor mechanism with rivets and spacers did not work – difficult to engage



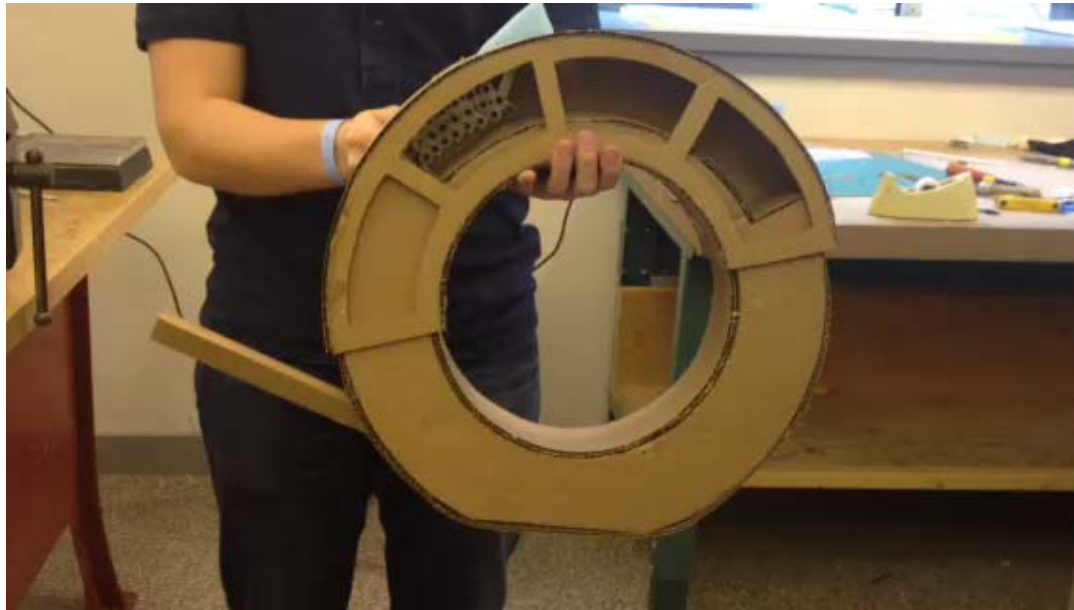
Sketch Model Testing

- Attaching scissor links with screws works



Sketch Model Testing

- Integration of mechanism into watering can



Price Benchmarking



ACE \$6.59



Ames \$69.99



Haws \$360.00

Tilt₂0 Competitor



Lessons Learned

- First answer isn't always right
- Precise machining is critical
- Spatial constraints

Next Steps

- Get user feedback from sketch model
- Choose materials/components
- CAD details for manufacturing