

Tri-State Consulting Co.



Introduction

- **Team Members:**
- **Jamie (Team Leader)**
- **Mark**
- **Justin**
- **John**
- **Ritchie**

Assignment & Objectives

- **Create a catapult able to throw a specified object a certain distance**
- **Have quick and easy adjustments**
- **Safe for the consumer**
- **Consistent and accurate**
- **Strong**
- **Cost effective**
- **Present finished product and presentation**

Rules and Regulations

- **Catapult**

- No larger than 1.5 cubic feet
- Propulsion by springs or elastic bands

- **Projectile**

- 50 gram ball (golf ball)

- **Target**

- Set 3 meters away from catapult
- Diameter of bulls eye: 3 in.
- Distance of bulls eye off the ground: 20.5 in.
- Direct hit – 100 pts.

Initial Ideas

- **Design**
 - Spring that pulls
- **Location(s)?**
- **Materials**
 - Metal and wood
- **Drew initial sketches**
- **Thought of our objectives**

Initial Design

- Mostly made of wood
- Spring that pushes
- Little room for adjustments

Final Design

- **Changed Position and type of Spring**
- **Changed Arm**
- **Changed Stopper**
- **Wood Base Remained the Same**
- **Added Elevation Adjustment bolts**

Final Design Pictures



Front View



Side view



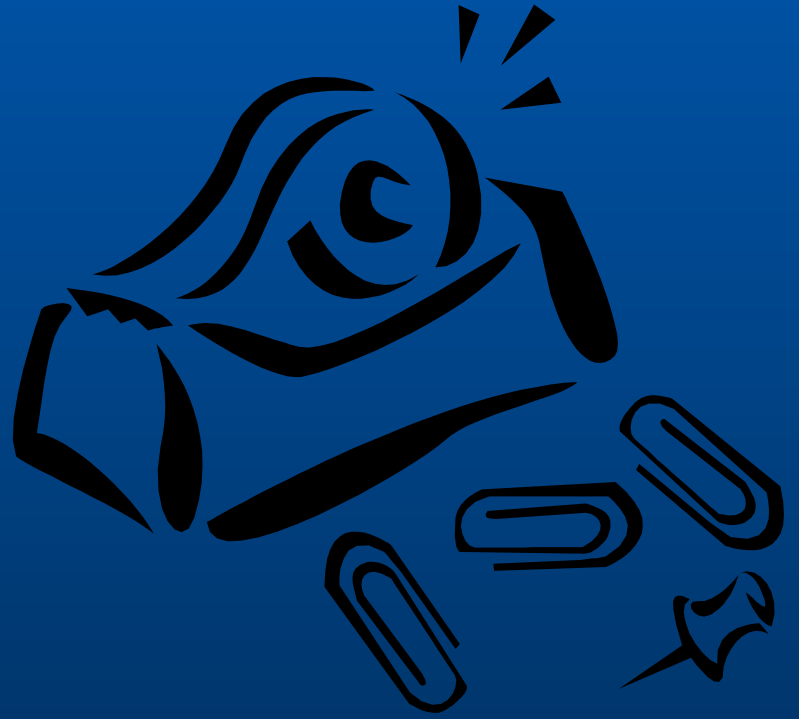
Top view

Tools Used

- **Drill press**
- **Bench Grinder**
- **Hacksaw**
- **Table Saw**
- **Milling Machine**
- **Glue Press**
- **Sander**
- **Router**

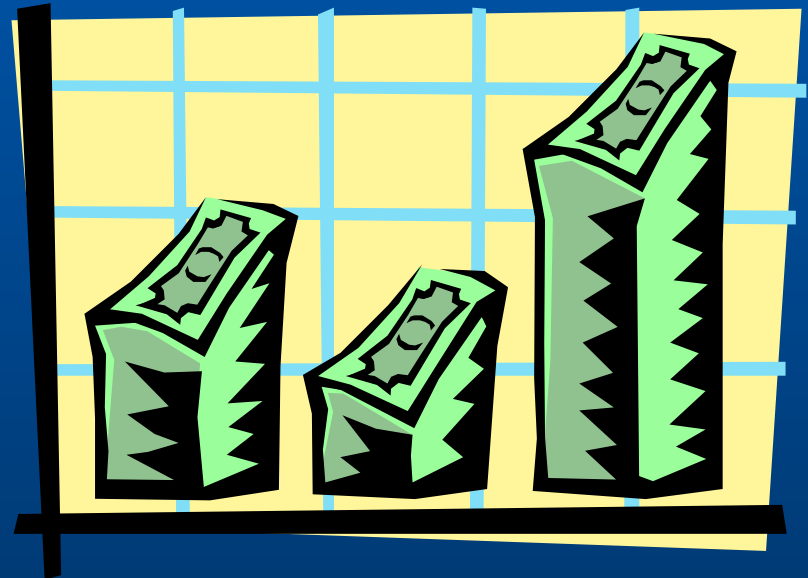
Materials

- Wood Base
- All Thread Lever
- Spring
- Nuts, Bolts, & Washers
- Aluminum Holder
- Metal Bases to Support Apparatus



Cost

- Wood Base \$6.00
- Lever \$2.50
- Angle Iron \$2.50
- Aluminum Bar Stock \$1.50
- Nuts, Bolts, & Washers \$2.50
- Total \$15.00

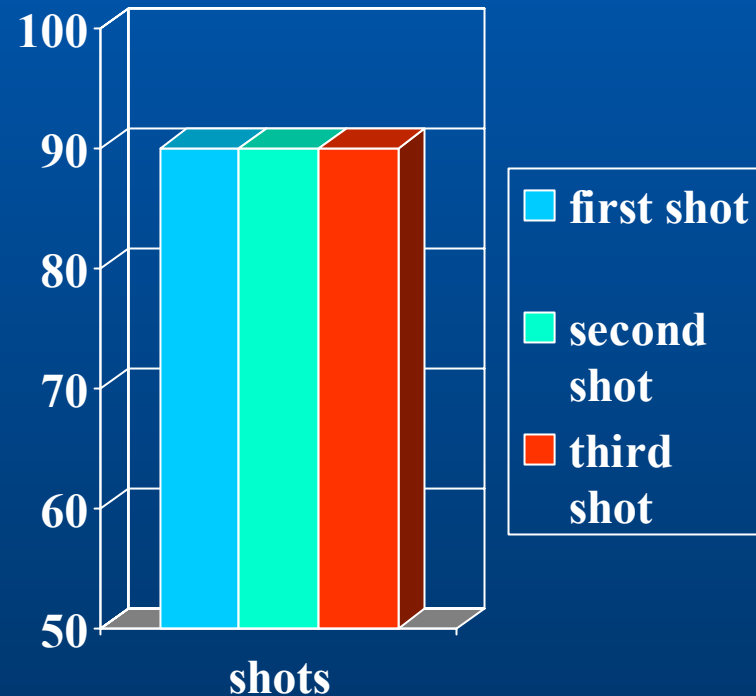


Construction and Assembly

- **Used all available resources to effectively produce desired results**
 - John's brother's house
- **Scrap metal reduced cost, increased strength**

Results

- 3 Hits of 90
- 100% Accurate
- Very Safe
- Cost Efficient
- Easy Assembly



Any Questions?

