**Campanile Carillon Model**

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Mechanical Engineering ME415 Section 4 – Machine Systems Design

**Problem Statement:** A safe and inexpensive means of assembly and mobility of the Campanile façades must be designed and implemented onto the existing panels.

**Customer Requirements:**
- Façades need to be hung using a maximum of 2 people
- Gaps need to be reduced between façade panels
- Mounting of façade withstands 20 MPH winds
- Panels need to be hung with ease
- Façades can be hung in one hour
- Touch up on detailed frills
- Stay within budget

**Design Goals:**
- Inexpensive solution
- Alterations coincide with existing panels
- Safe and rigid
- Invisible to audience

**Final Design Concept:**
- Keep previous French cleat design
- Sections of 3 magnets
- 7-inch steel plates that connect to magnets
- Corner pieces shaved off to be attached separately
- Overall cost was $720

**Design Strategies**
- Created magnet jig to ensure precise and accurate holes
- Reinforced test frame for better understanding of setup
- Tested multiple magnet orientations

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**Magnet Jig**

**Test Frame**

**Magnet Placement**

**Façade Setup (6ft)**

**Façade Setup (4ft)**