Aluminum Can Crushing Recycling Bin Alcoa Sustainability Project

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ALCOA

Problem and Solution

- Problem: Uncrushed aluminum cans use space inefficiently in recycling bins
  - Recycling aluminum cans takes excess effort if bin is full
  - More frequent replacement of trash bags
- Solution: Crush the cans before putting them in the recycling bin

Design

- Recycling bin with self contained can crusher
- Two openings
  - Larger opening for other metals
  - Aluminum can crusher with transparent window covering
- Aluminum construction
  - More durable than plastic
  - Larger volume
- Powered by:
  - Outlets indoors
  - Solar power for outdoor versions

Operation

- Can crusher
  - Contained within lid assembly
  - Initiated by closing transparent window

Operation (cont.)

- Motor turns gears that move crushing arm
- Window is pulled back after crushing
- Safety Features
  - Window must be closed for crusher to operate in crushing direction.
  - If the window is forced open, crusher automatically retracts

Implementation

- Place in areas with higher can consumption rates
  - Dorms
  - Commons
  - Beaver Stadium
  - Apartment complexes
  - Frat houses
- High initial investment to manufacture for long term benefits
- Essentially no installation costs
- Very low cost of operation

Benefits

- Greater efficiency
  - Less frequent need to empty recycling bins
- Saves money in the long run
- Potential for distribution in other areas off campus
- Increased interest in recycling
  - Window is transparent so that people can watch their can be crushed
  - New design draws attention

THANK YOU!