


Innovating Street Cleaning: A New Gutter Broom

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Street Sweepers

- Introduced in mid-19th century
- Motorized in early 20th century
- Three kinds: Mechanical, Regenerative air, vacuum

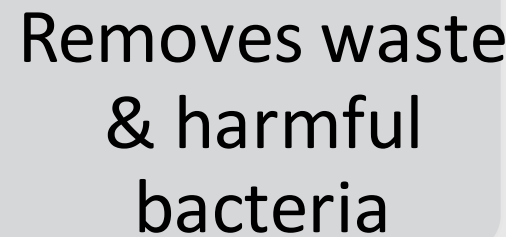




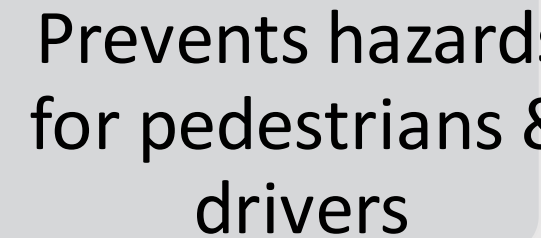
Importance of Street Cleaning/Sweeping:



Public health &
safety



Removes waste
& harmful
bacteria



Prevents hazards
for pedestrians &
drivers

NYC uses the Allianz Johnston 4000

Issues:

- **Inefficiency:** limited sweeping range & missed debris
- **Wear and tear:** frequent replacement and maintenance of brooms
- **Noise pollution:** loud when in operation



Purpose



50-75% Increased efficiency in debris pickup



80% Reduced wear & tear



90% Reduced noise pollution

Scope of Proposal

Design

Design a new gutter broom for the Allianz Johnston 4000

Prototype

Develop a prototype of the new gutter broom

Testing and
Evaluation

Test the prototype

Production and
Installation

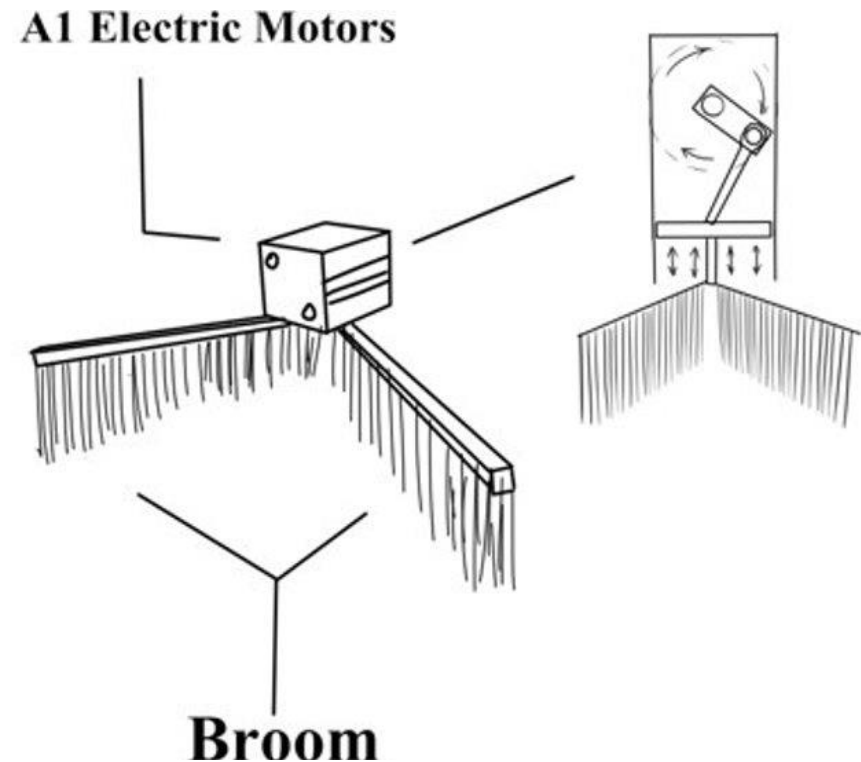
Produce the new gutter broom and install it

Project Description

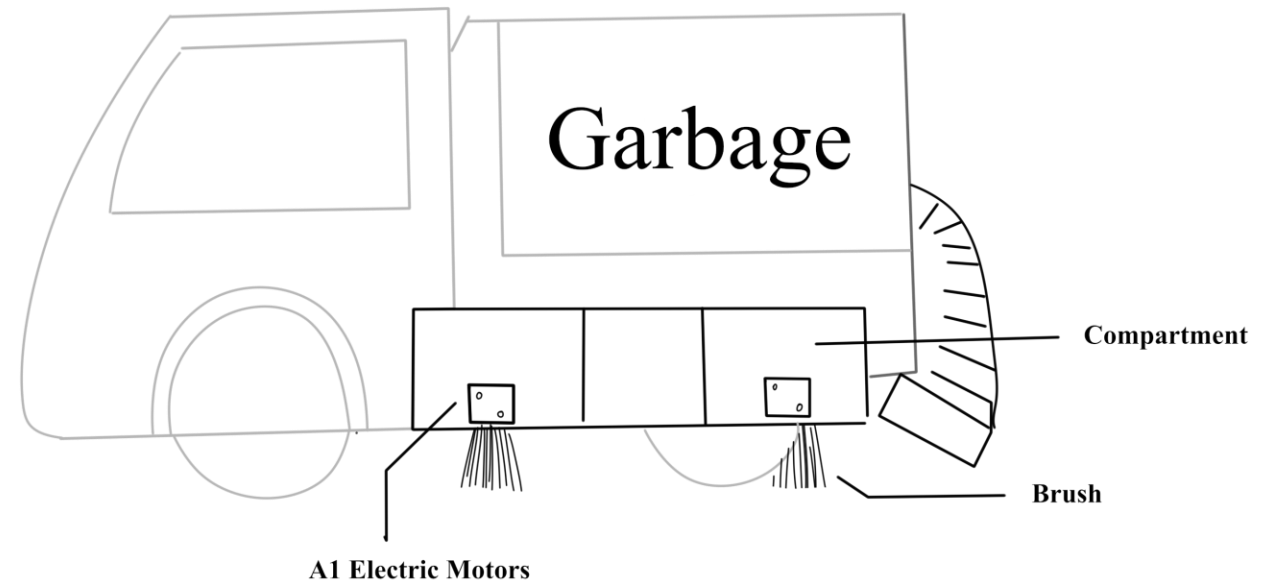
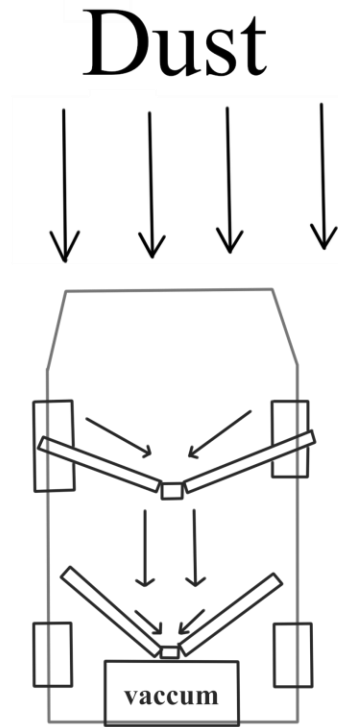
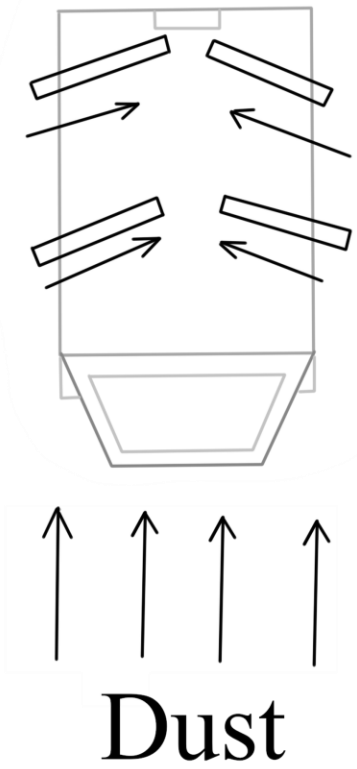
Broom: Below the motor is the broom. The broom is about 8-10 inches in width.

Motor: The motor is made from an A1 Electric Motor with A1 Chips

Figure 1.- A drawing of our product



Different views of the broom

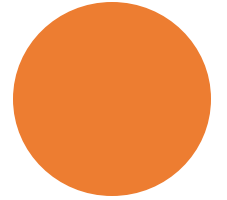
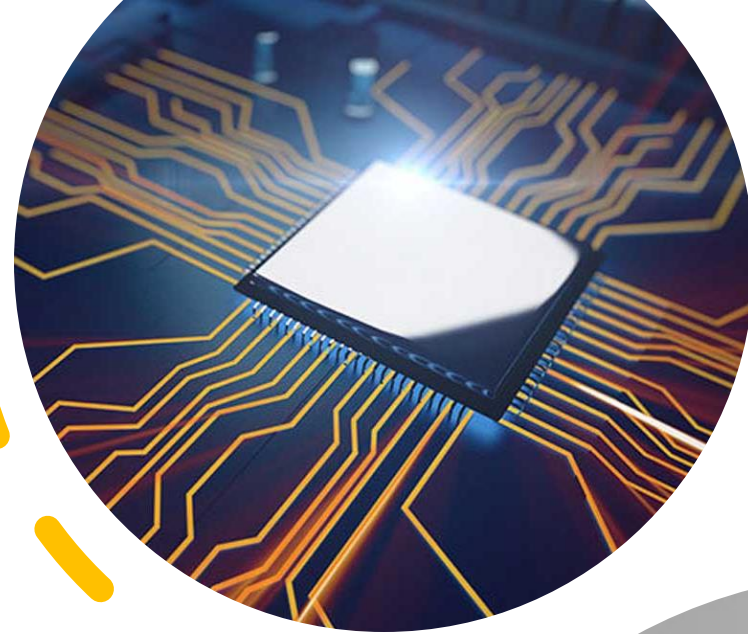


Specifications sheet of our product

Spec Sheet of Our Product				
Type of Trucks	Height	Width	Length	Size
Small street sweeper	10 inches	8-10 inches	8 feet	0.125 m ³
Large street sweeper	16 inches	10-12 inches	10 feet	0.315 m ³

Innovative Process

- A1 Electric Motors with A1 Chips
- Broom is made of synthetic fibers
- 50-70% Improvement
- 200-300 pounds of Torque
- Takes away emissions and noise pollution
- 1-year warranty



Materials

Broom Bristles

- Polypropylene
- Steel wire
- Nylon

Core

- Stainless steel

**Targeted
audience**

Johnston Sweepers

NYC Street
Sweeper manufacturers



How much more efficient is our product ?

- Less noise
 - Less air pollution
 - Longer service life
 - Clean Energy
 - Faster Technology
 - Less maintenance cost
 - Faster cleaning times
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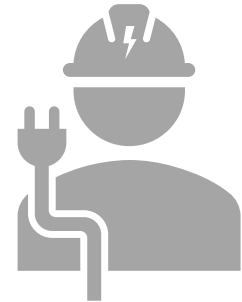
Costs



Installation costs:
\$500—\$1,000



Training costs: \$1,000—\$3000
1 Week Intensive Training



Mechanic costs:
\$50—\$100/hour

Expenses

Bills

Broom materials 2,000 per unit

Mechanic (1-2 days) \$800

Rent/Utilities \$2,000

Required Tools \$1000

Installation fee \$500

Total \$6,300

Profit

Total Expenses **\$6,300**

Selling Price **\$10,000**

Profit	\$3,700 p/u
150 Units	\$555,000



