



04

Product design

Electric Pencil Sharpener

After reading the book from Naoto Fukasawa, I start to rethink the relationship between human and products. 'Without Thought' means that transforming people's unconscious intuitive experience into visible design, and solving problems in the most direct way. According to my own understanding, I developed the electrical pencil sharpener.

Inspiration



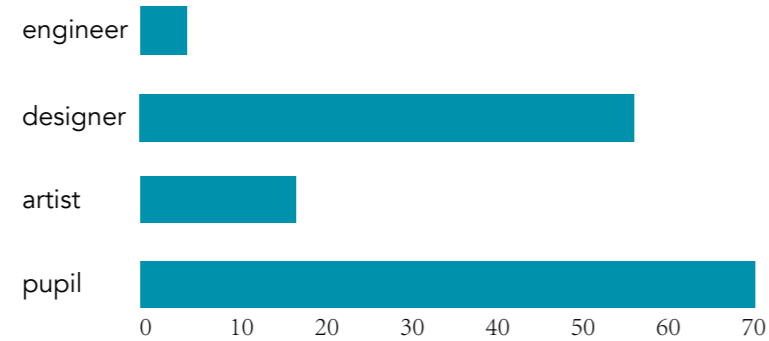
If small problems caused by discontinuities in behavior are solved, everything will work smoothly and naturally.

Naoto Fukasawa

Target User

Based on the questionair, **designers** and **artists** who work in studios are one of main users.

The occupation of the persobs who buy sharpners



Field Research



Design studio contains many different elements. It needs **orders** and **regulations**. Order means being **coherent** and **tidy** and no extra behaviors during the process.

Observation and Problem analysis



Behavior Breakpoint

Users use fingers to clean pencil shavings remained on pencilsharpener. They picked up pencil shavings accidentally dropped on the table.

Identified problem

In the whole process of using the electrical pencilsharpener, **shavings can be poured out** when user cleans the sharpener.



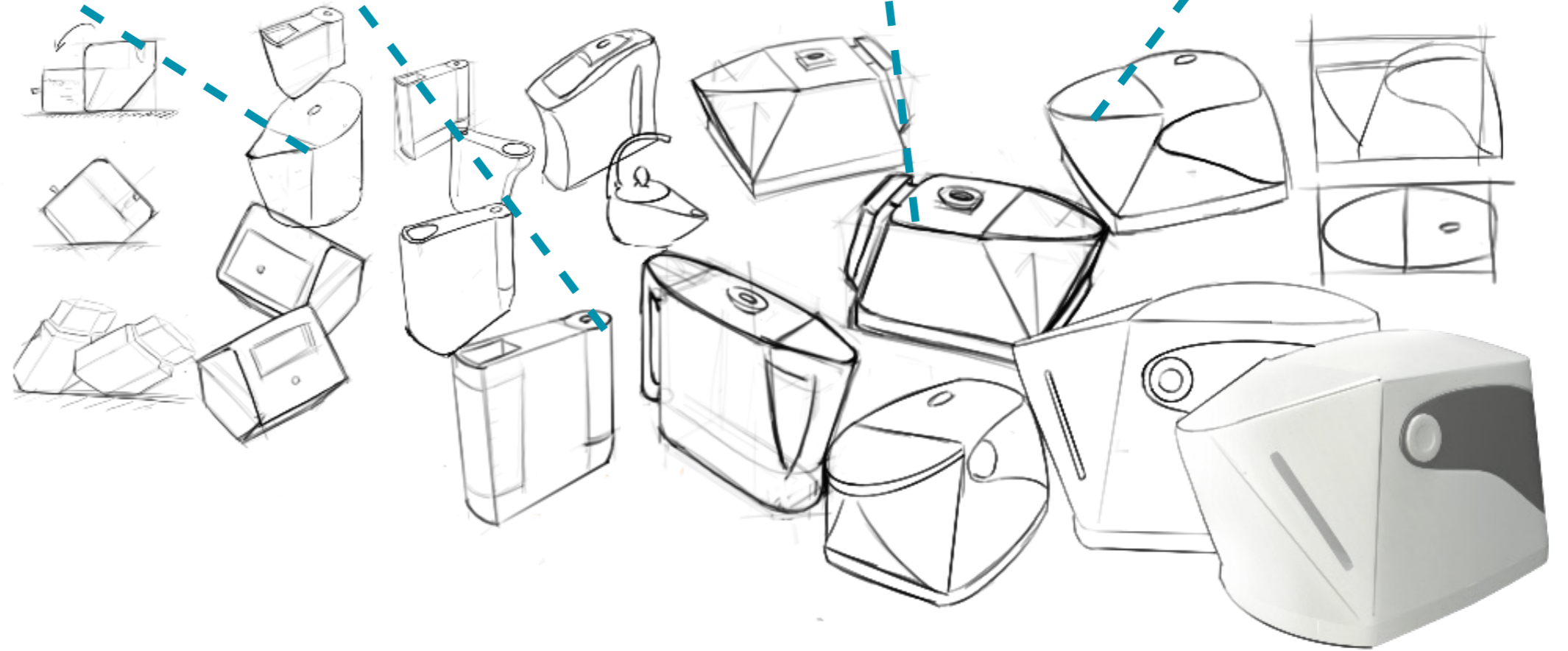
Summary

- 1.Contiune behaviors can be **interrupted** by pencil shavings that accidentally fall on the table.
- 2.Users will be tempted to clean up an open penknife.

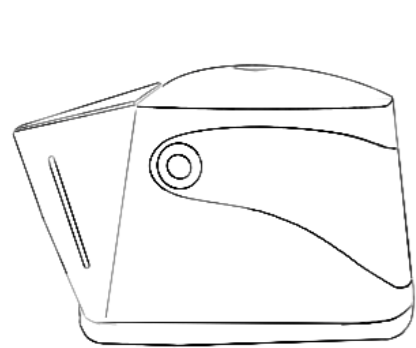


Concept development

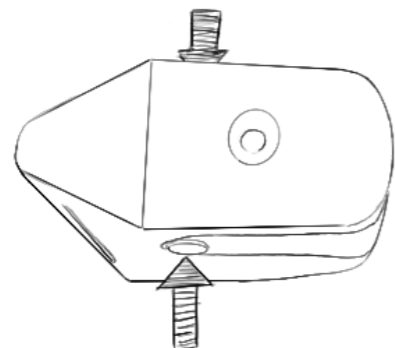
I found different types of kettles and try to abstract the key characters of kettles ,which can lead my consumers to think about them.



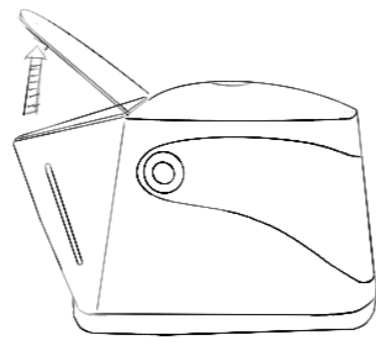
Final Design



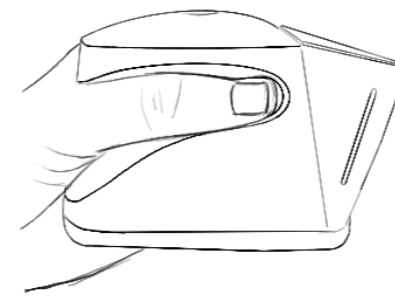
The container is full



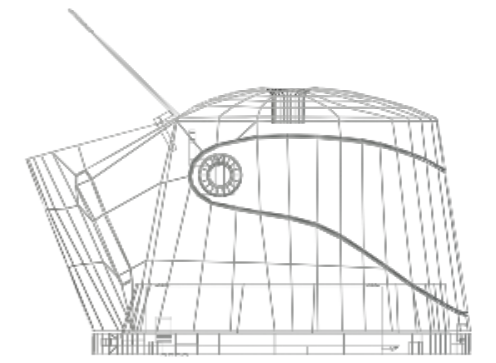
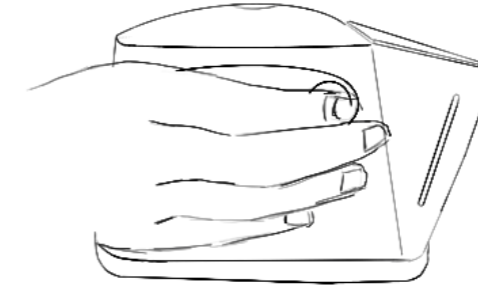
Push two buttons at the same time



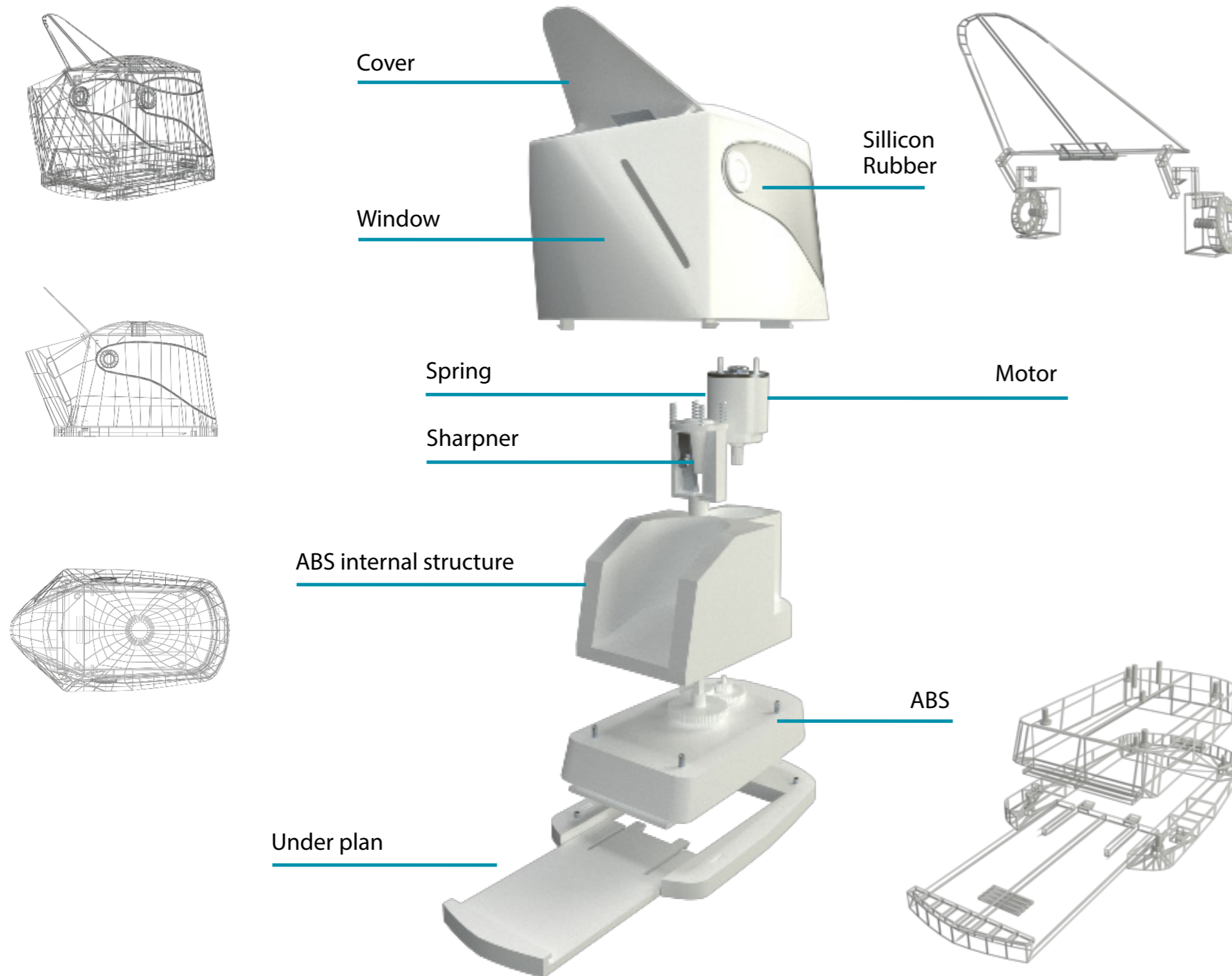
The cover opens and pour the chips



The height of the pencil chips can be seen through the transparent window



CAD and Manufacture



Ergonomics Test

Sketch model

Making sketch model is aim to test the outlook and the size of the pencil sharpner.



Testing

Ergonomics test is aim to test whether the design is comfortable and whether people can hold it in right way.

