



RHYTHM

KitchenAid® GO Mortar and Pestle

Designed by Olivia Rockwood

ENHANCEMENTS

THE OPPORTUNITY

How do you improve the world's oldest
cooking instrument



A woman and a young girl are in a kitchen, focused on making dumplings. The woman, wearing a purple shirt and a light-colored apron, is carefully placing a filling into a dumpling wrapper. The girl, wearing a pink dress, is holding a wrapper and looking on. The kitchen has a window with blinds on the left, a tiled backsplash, and a stove on the right. A bowl of fruit and a rolling pin are on the counter.

TRADITION

Keeping the old with something new





TARGET CONSUMER

The consumer is someone who wants to cook authentic food for their family but might not be able to use a mortar and pestle as easily as they once did when they were younger.

Another target is a consumer who wants to expand their culinary adventure without having to buy five different types of mortar and pestles.



CURRENT MARKET



Item: KitchenAid Mortar & Pestle
Tilt-Head Attachment: peanut butter, herbal tea, coffee beans, spices, BBQ rub, curry, berry jam, pesto, herb butter

Sold: On Esty by MashDaddy

Price: \$34.00 without shipping

Problem: It destroys any bowl used with it



Item: Liquid Nitrogen Cooled Mini Mortar: Stainless Steel, 114 mm
Mortar Ht - Metric, 1.5 mL Capacity

Sold: Grainger, in their Lab Supplies

Price: \$664.37 without shipping

Problem: A medical grade mortar is not efficient or practical to use in a kitchen.



CULTURAL RESEARCH



MOLCAJETE MEXICO

The Molcajete is the Mexican mortar and pestle. Dating back to pre-Hispanic Mesoamerican cultures, with an estimated origin of 8000 years ago placing it between 7000 and 5000 BCE.

The Molcajete is carved from a single piece of volcanic stone, most commonly vesicular basalt, a material that is rich in iron and magnesium. To test if you have a real Molcajete all you must do is smell it for the scent of sulfur.

The Molcajete is carved to have a medium to shallow bowl and has three to four supporting legs.



ASANKA GHANA

The Asanka is the Ghanaian mortar and pestle that is made from earthenware. It's a grinding pot that is created with ridges on the inside. The pestle, or masher, is called eta or tapoli depending on the common language in the area.

Its commonly referred to as a traditional blender and is used as one where there is no electrical blender available.

The Asanka is a popular tool that can be found in many Ghanaian kitchens.



SURIBACHI-SURIKOGI JAPAN

The Japanese mortar and pestle, Suribachi and Surikogi, originated in southern China and was introduced to Japan in the 11th century.

The Suribachi mortar is traditionally made from Iwami clay. This clay is found in the Iwami region west of Japan and is known as a durable clay. The design in the Suribachi is a great shape for grinding.

The Surikogi pestle is traditionally carved from the Sansho tree. The wood from the Sancho tree can add a slight flavor to the spices that it is grinding.



KROK SAK THAILAND

The Krok Sak is a tool that can be dated back to almost 40,000 years ago. The name of the krok comes from the sound that the mortar and pestle makes. Its name is an onomatopoeic word and means "The sound of the pestle pounding into the mortar".

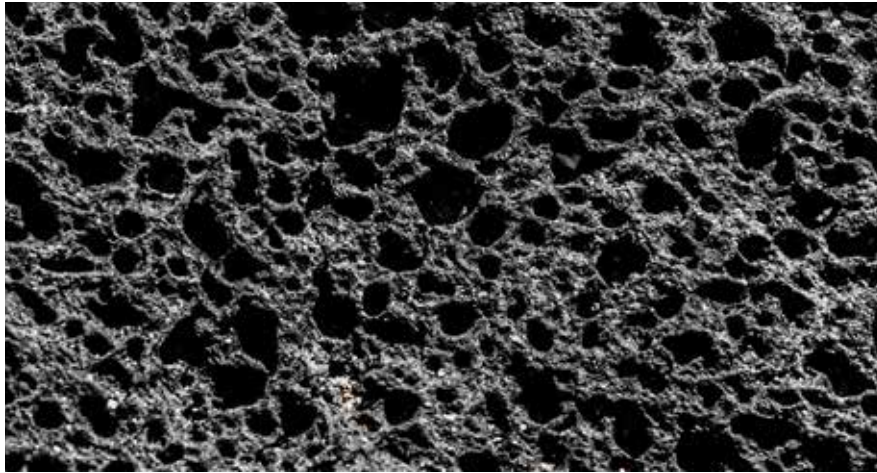
Ang Sila is a significant place for the krok. Ang Sila is a small fisherman village in the Chonburi province of Thailand and is the epicenter of granite carving. The granite is hand carved from a special white-yellow granite found in the Chonburi province.

There is a process of seasoning the krok, and there is an effort to preserve the ancient craft of creating a krok.



M A T E R I A L S T U D Y

NATURAL



BASALT



EARTHENWARE



GRANITE

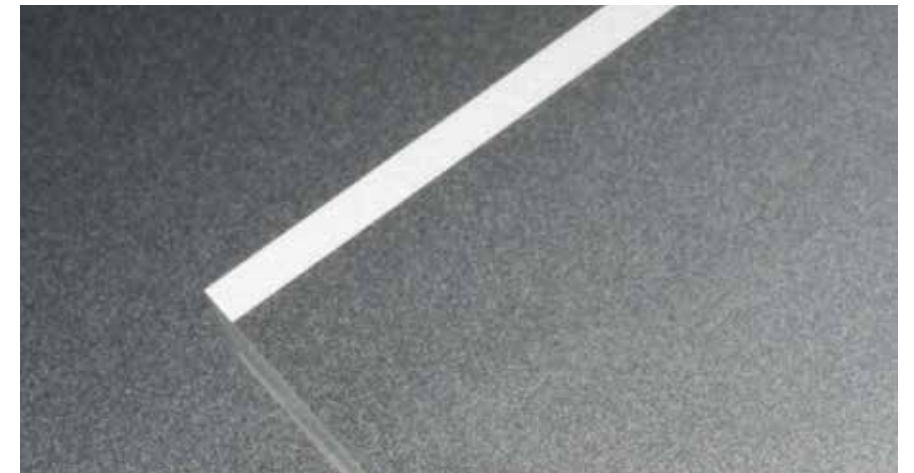
MODERN



HARD WOODS



RE-ENFORCED PLASTIC

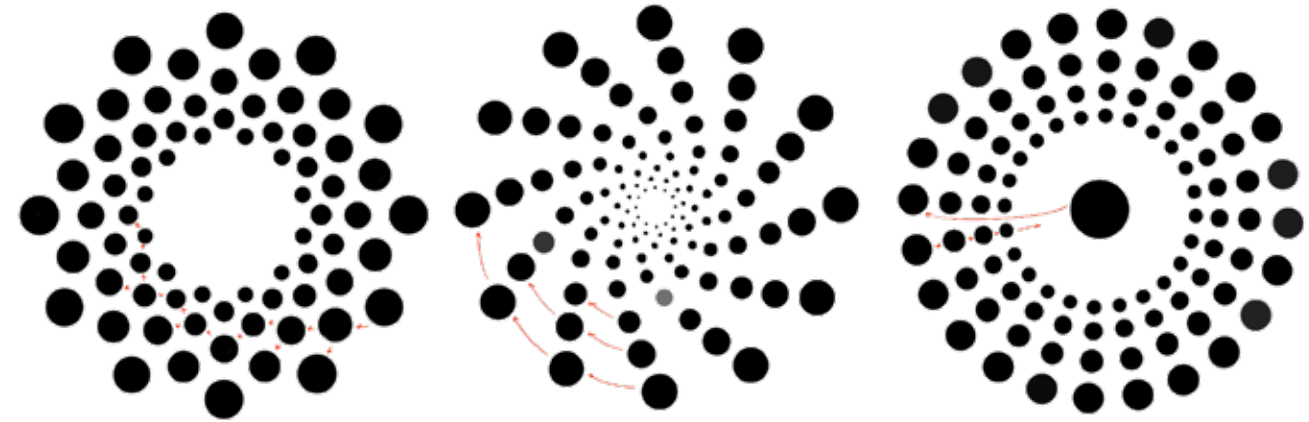
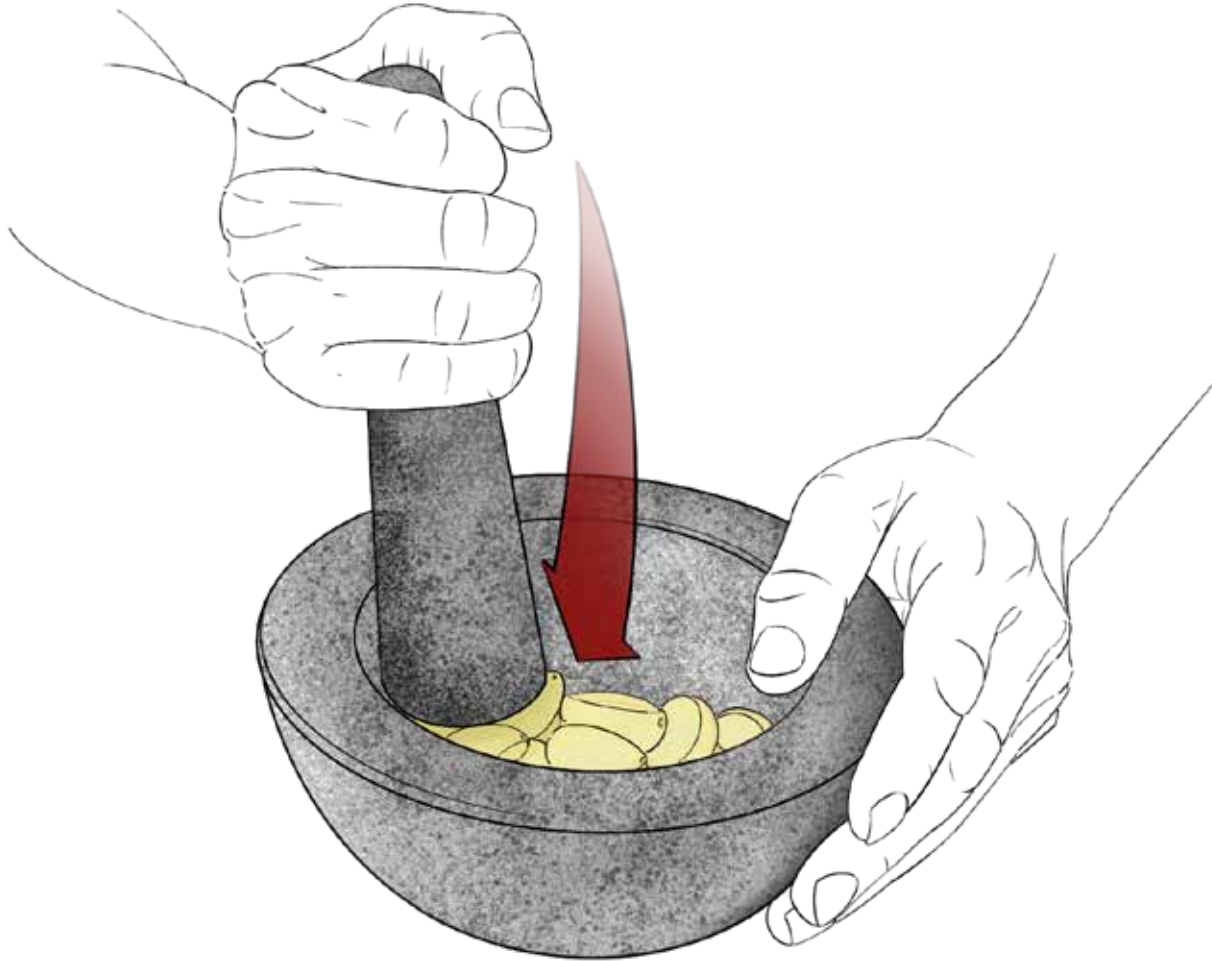


TEMPERED GLASS



P O U N D

P O U N D I N G P A T T E R N S



Things to note

On average people produces a max of 44 to 60 PSI.

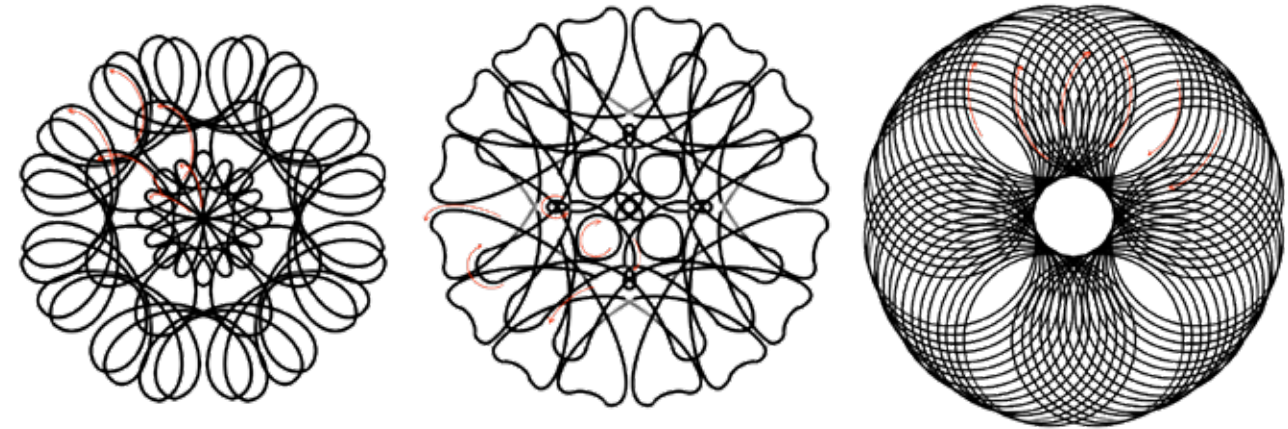
Materials will need to be strong enough to endure 70 PSI or more over an extended period of time



STIR



STIRRING PATTERNS



Things to note

The stirring motion should be able to hit all points on the surface to make sure any ingredients isn't left out.

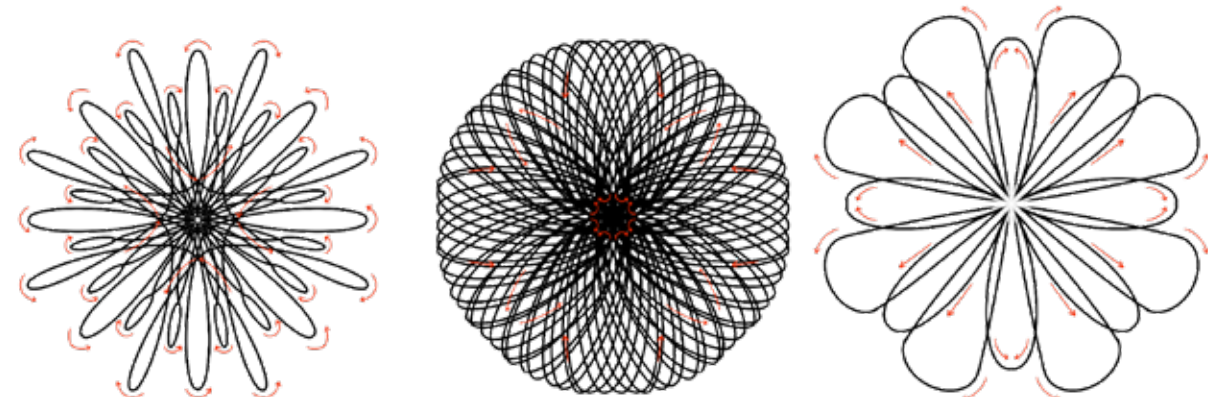
Make sure that any materials used in the machine is dishwasher safe, if you have to wash it by hand it would remove any efficiency that the mortar and pestle provides.



GRIND



GRINDING PATTERNS



Things to note

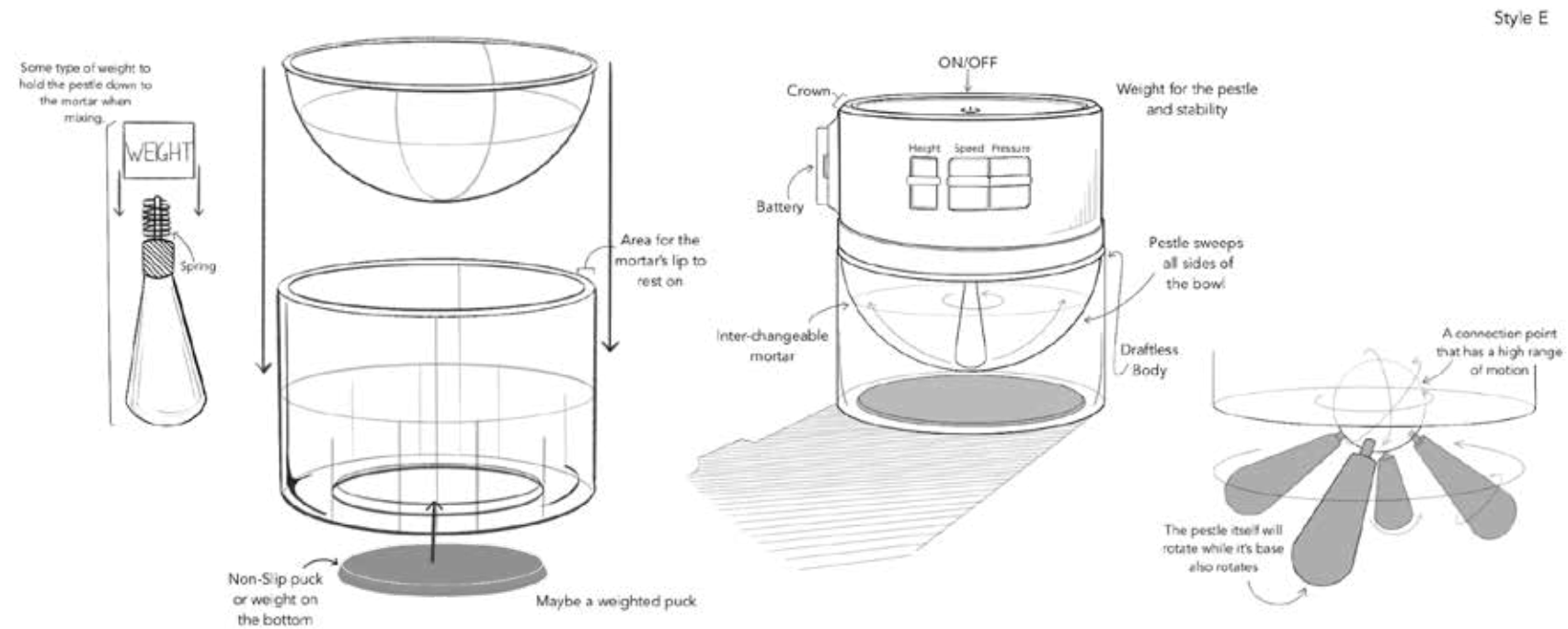
Often when grinding a spice or other ingredient a twisting motion is applied, it would be most efficient to apply this twisting motion to the pestle when its using the grinding patterns.



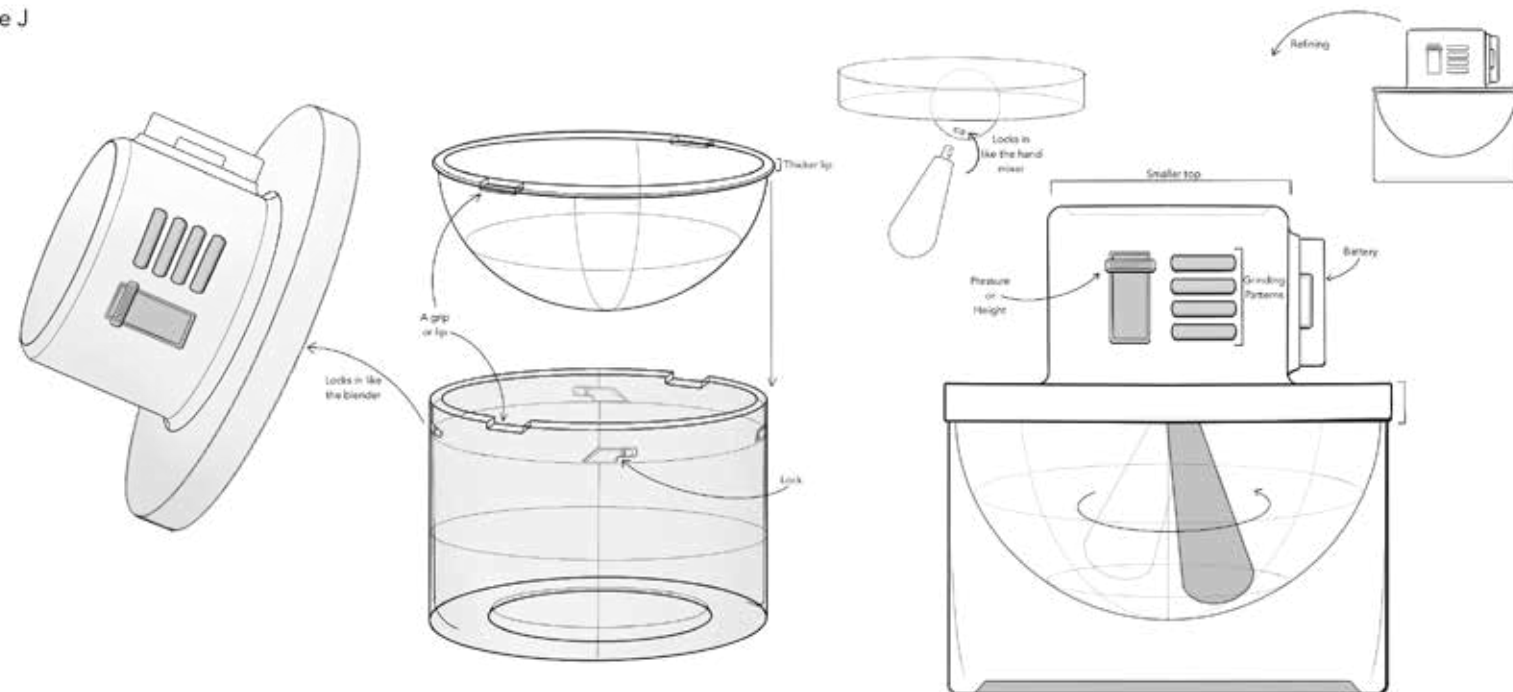
BEGINNING OF AN IDEA



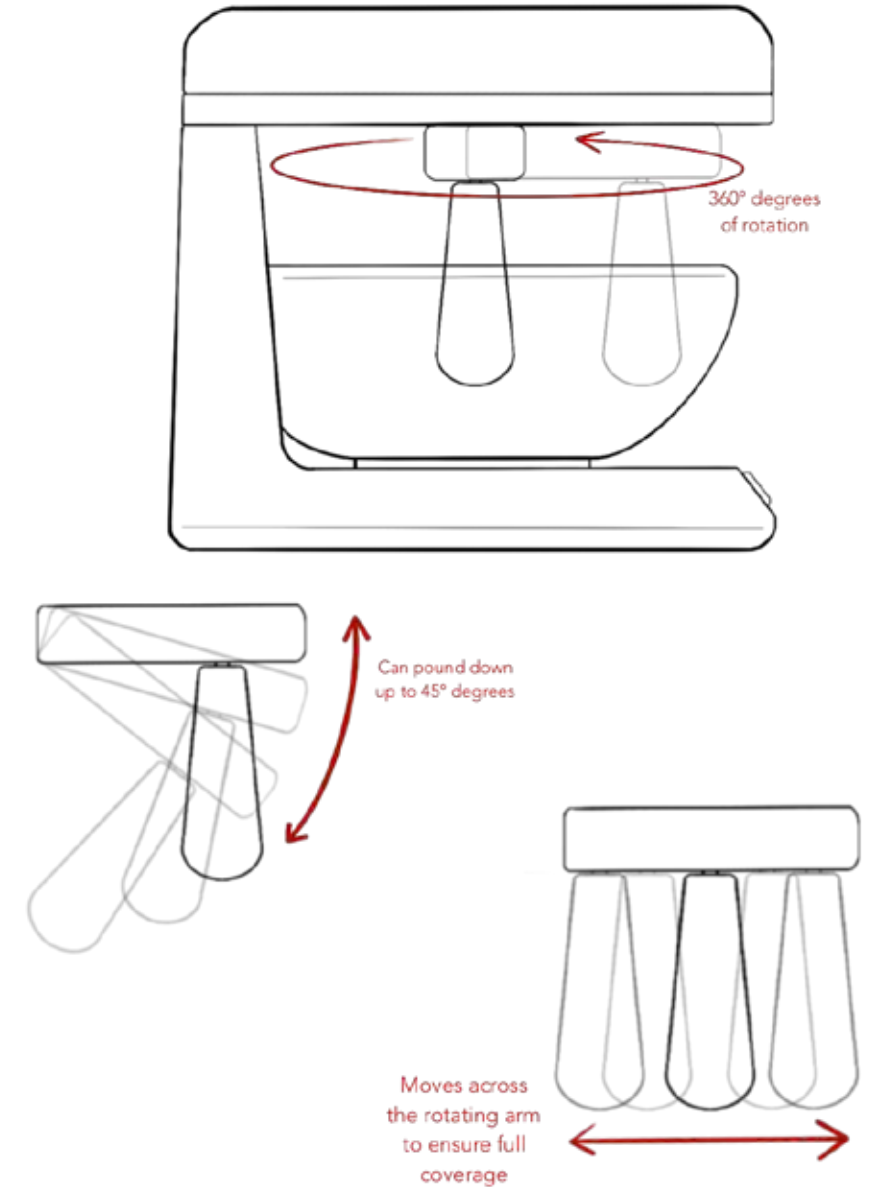
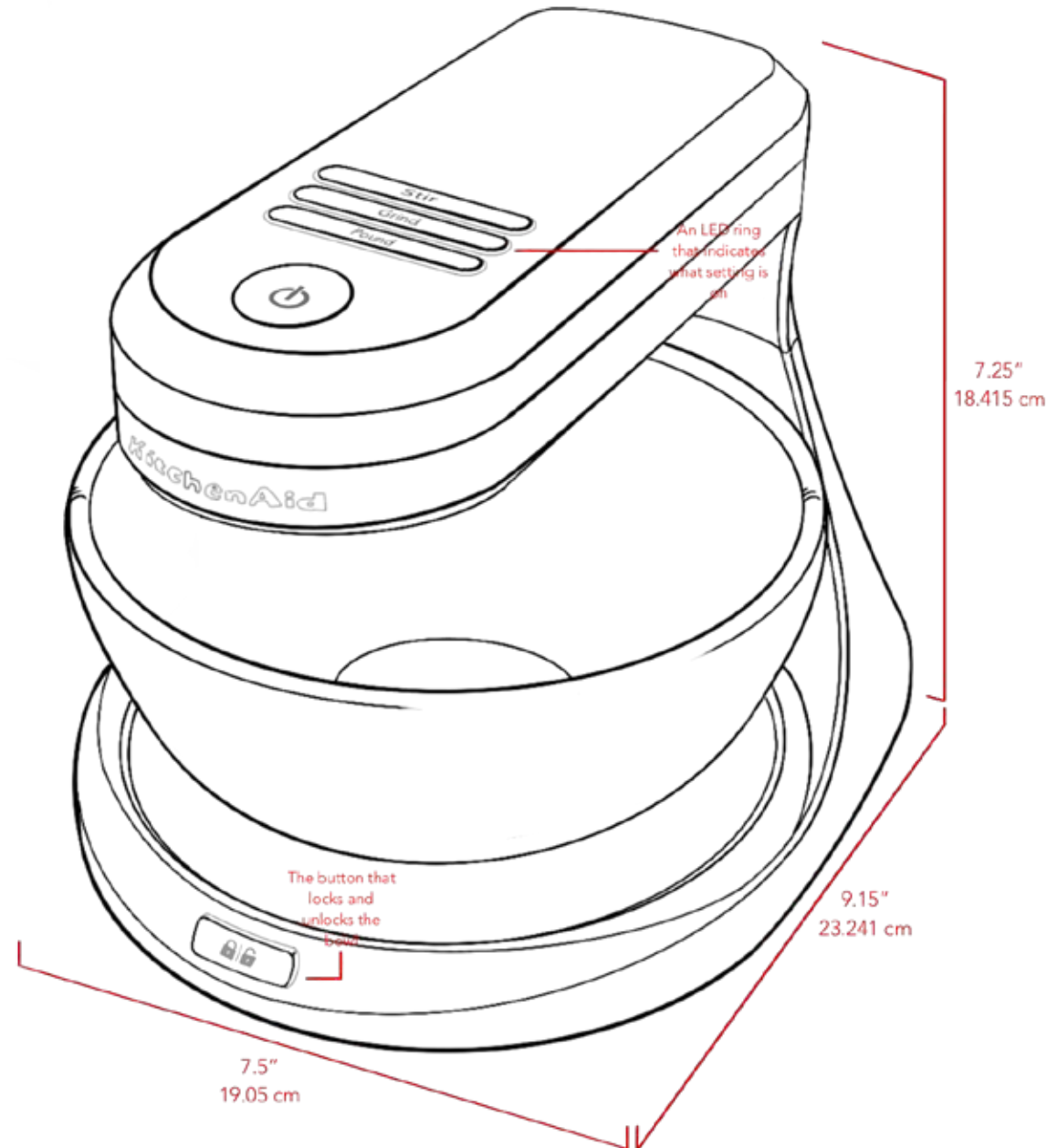
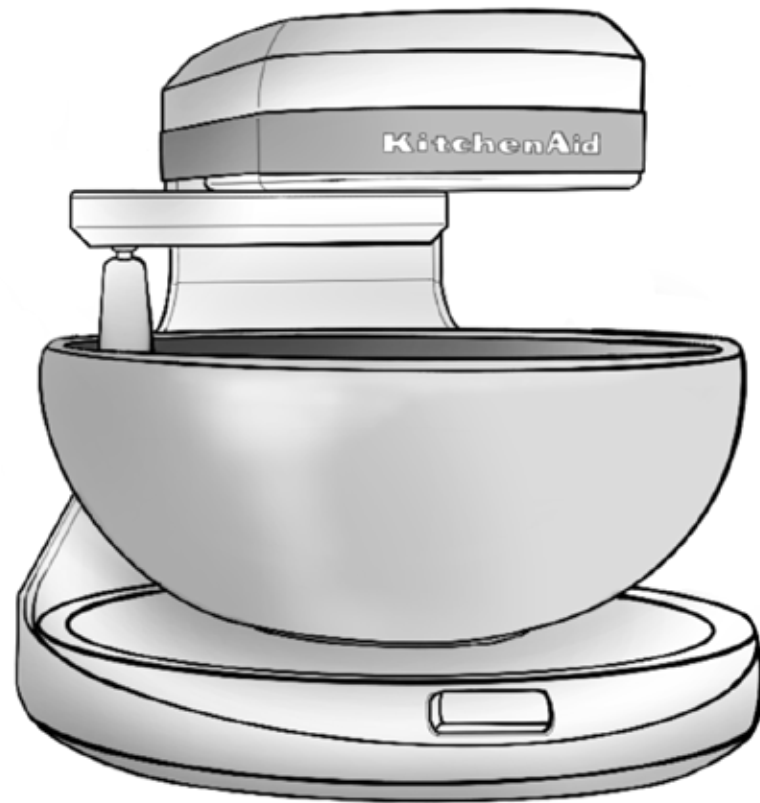
FIRST REFINEMENT



Style J



FINAL REFINEMENT



M O D E S



Stir - Grind - Pound

By using the study of the styles used for mortar and pestles we can set up the three needed mechanisms for motion; Stir, Grind, and Pound.

Each setting has three styles, this will help ensure that at least one mode is correct for the desired ingredient. When a mode is selected it will have a small indicator light to tell you which type of motion you have chosen.

By clicking the motion type again it will change to become a different motion pattern. This difference is indicated by how bright the light is.



PESTLE MOVEMENTS



Motions

The pestle has four types of motion. The first motion is the stirring motion, this is when the pestle stirs around the bowl to ensure that even the outer most points still have contact. The second motion is the pounding motion, this allows the pestle to move lower into the bowl to either pound an ingredient or get closer to any smaller ingredients lower in the bowl. The third motion is the pestle moving up and down its track, this allows the pestle to pound and grind without the worry of having the pestle cause severe impact damage. The fourth and last type of motion is the pestle itself. The pestle will be able to have a 360 degree rotation to allow for grinding.



B O W L L O C K



Security

To secure the bowl I designed it to have a grab and release lock, this is so it avoid having a twist lock design on the bowl. In this style it can still be presented as a normal bowl with a stylized foot.





TRADITION

Keeping the old with something new

