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PORTFOLIO

2015-16

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As a designer, I am interested in good design, not excess design. I feel every product, whether mass-produced or not, should have a foundation of intellect and integrity. I am passionately interested in design for underrepresented, overlooked markets or rethinking a product through a lens of sustainability and empathy.

ME
↘



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02	IHA SOLO [COOKWARE]
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50	PERSONAL WORK + ON-MARKET



Int'l Housewares Submission

SOLO [COOKWARE]

Solo [cookware] centers around the visually-impaired and how they complete basic tasks, like cooking, without their sight.

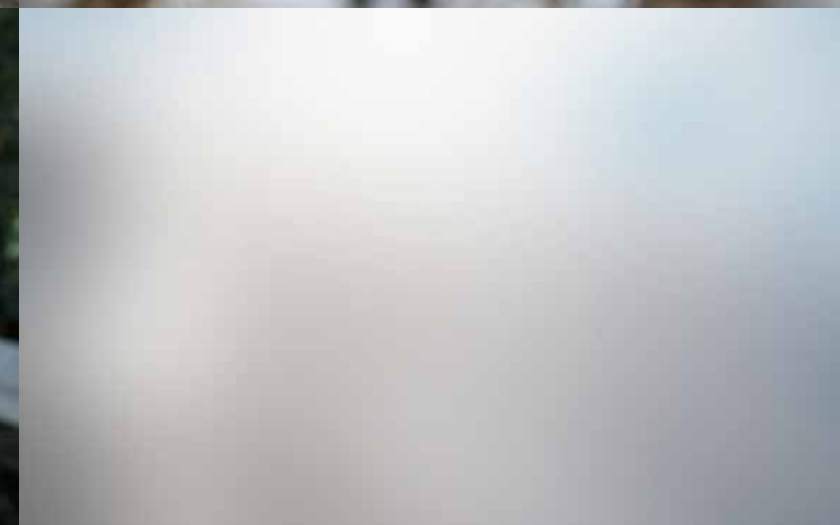


WHAT DOES BLINDNESS LOOK LIKE?

“If you held a straw up to your eye and closed everything off around it... that’s my world. That’s what I see..” -Sam, 26

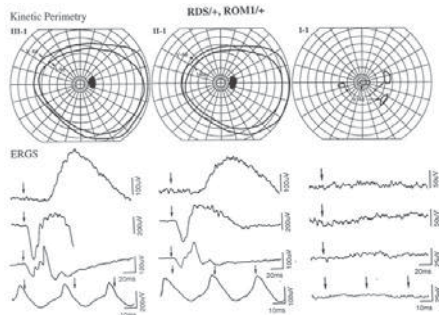
“My vision is like looking through many, many sheets of wax paper with blind spots.”
-Akita, 40

All these women still cook. Of the 7 visually-impaired men and women I interviewed, 6 had sighted spouses, yet still completed a majority of the cooking. So how are they cooking? And what are they cooking with?



RESEARCH

Research | Visual Mapping



Research | Cooking Class

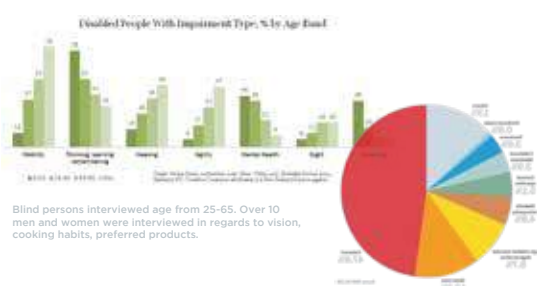


Research | Observation Recording



Blind persons interviewed age from 25-65. Over 10 men and women were interviewed in regards to vision, cooking habits, preferred products.

Research | Survey Data



Research | Eyewear



Research | Observation Recording



Blind persons interviewed age from 25-65. Over 10 men and women were interviewed in regards to vision, cooking habits, preferred products.

Research | YouTube Accounts



<https://youtu.be/8wC2mCYCEZg?list=LLYPdHuM1B9hCBKpKpChVw>
<https://www.youtube.com/watch?v=hiT08Y0y1WU&index=1&list=LLYPdHuM1B9hCBKpKpChVw>

Research | Problem areas

Problem areas: **Food-related**

"I absolutely hate cooking bacon. I'm **terrified** of the hot grease, and I'm constantly **burning** myself. I **refuse** to cook bacon"

"I still can't get the hang of cupcakes. I've tried everything. I just **get batter everywhere**. I just don't do cupcakes but I love them."

"Difficult to tell if something is fully cooked or **undercooked**. It's a big reason as to **why I am a vegetarian**" - Andra S.

"I own far **too many spices** to memorize. I often **mix my spices up**."

- Alicia H.

Research | Cooking Class

Basic White Cake Mix Recipe **20/400 vision**



20/20 Est. Prep Time: 20 minutes
20/400 Prep Time: **45 - 60 minutes**

Research | Cooking



Blind persons interviewed age from 25-65. Over 10 men and women were interviewed in regards to vision, cooking habits, preferred products.

Research | Available Products



**Interviews, surveys, empirical research



With interviews completed, I didn't quite feel ready to being concepting. I was missing my a-hah moment. I had no idea how these men and women were even cooking. So, I signed myself up for a blind cooking class at the Cleveland Sight Center. I also donned a pair of special glasses to see for myself what blind cooking would feel like.

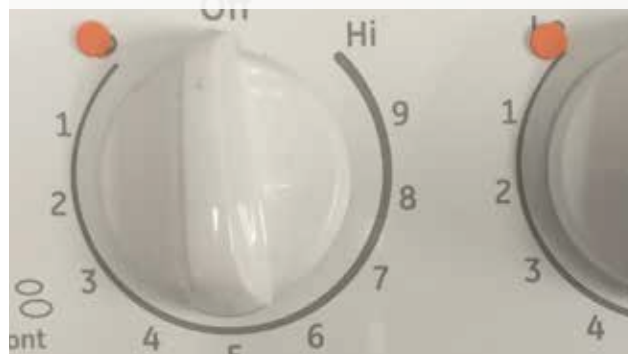
PROBLEMS

- ① Cuts and spills
- ② Burns on stovetop, pots and pans
- ③ Incorrect measurements
- ④ Mistaken ingredients





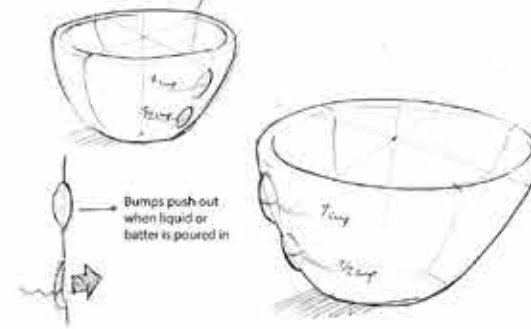
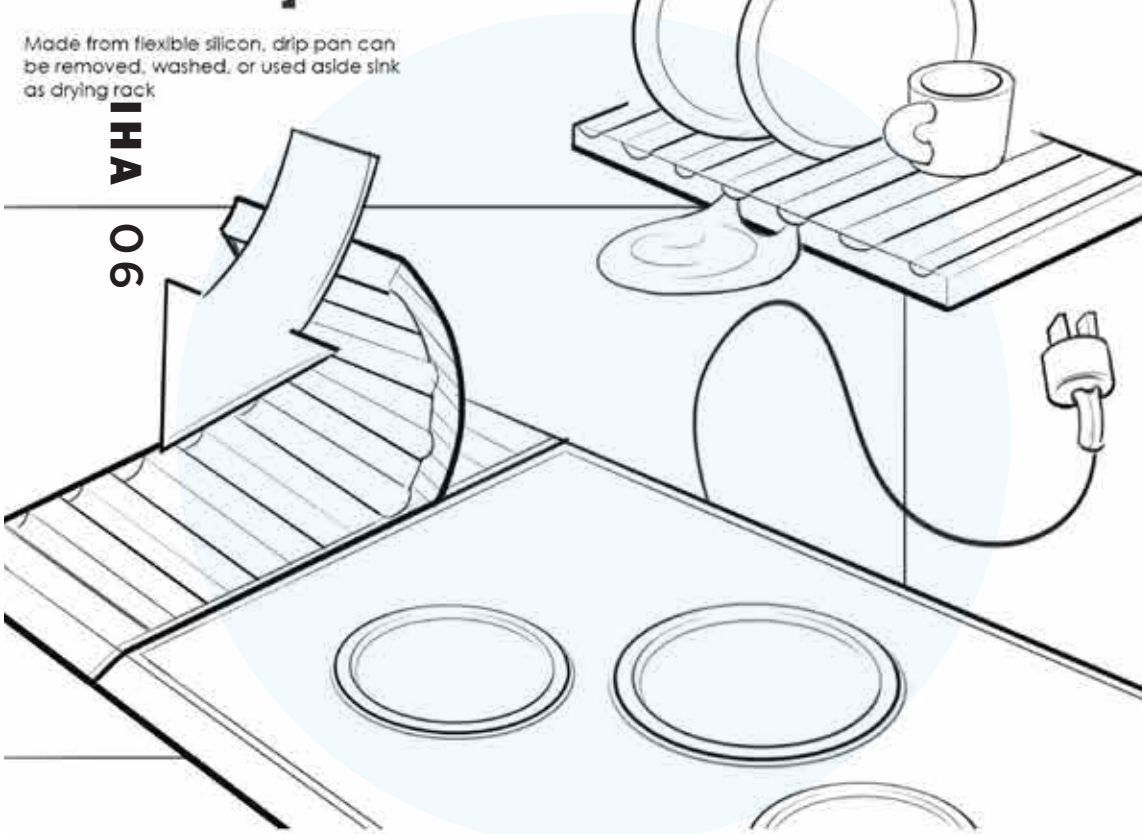
With all our efforts to create buttonless, edgeless, and modern products, we ended up leaving a group of people, and a market behind.



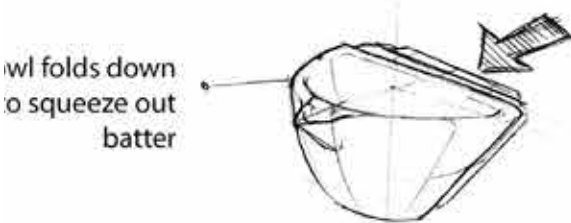
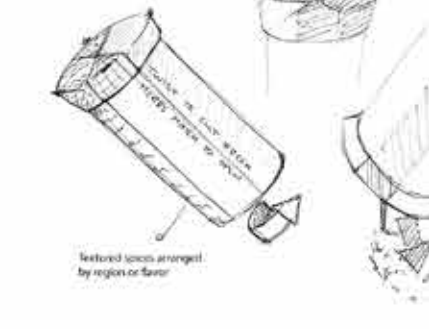
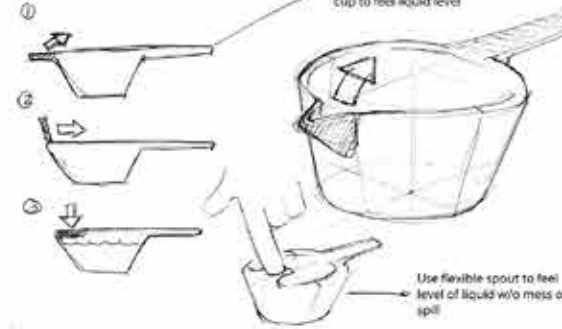
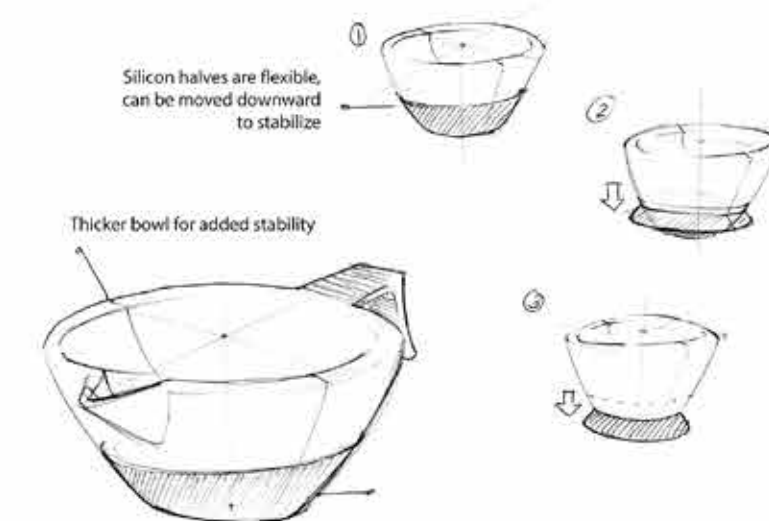
****puffy paint, bump dots, and high-contrast tape on flat-paneled screens to mark out where the buttons begin and ended.**

Made from flexible silicon, drip pan can be removed, washed, or used as side sink as drying rack

06 IHA

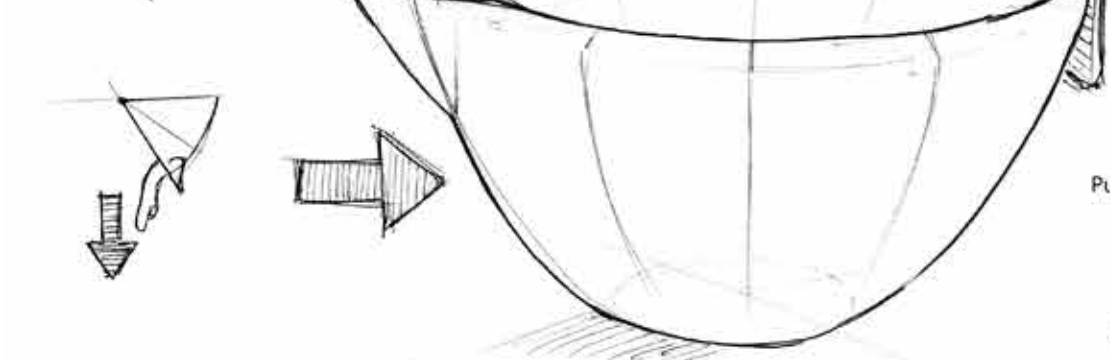


Silicon Halves

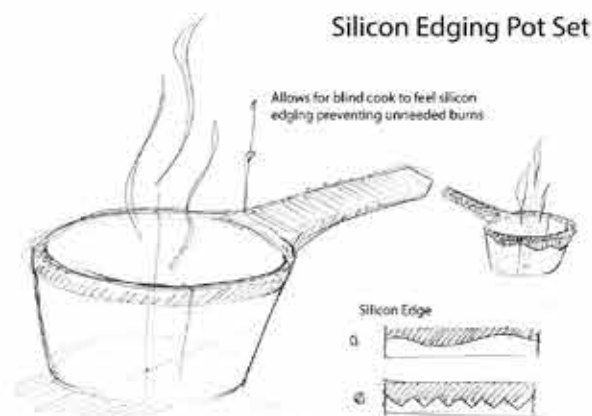


Fold N' Pour

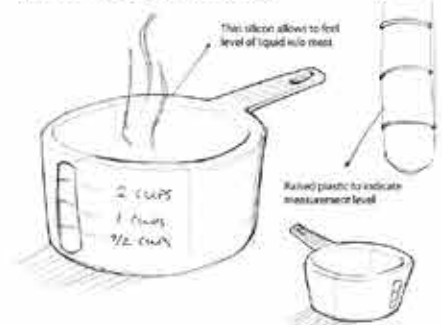
I focused on cookware and the stove itself with goals of eliminating cooking burns, preventing spills, and making food distribution easier.



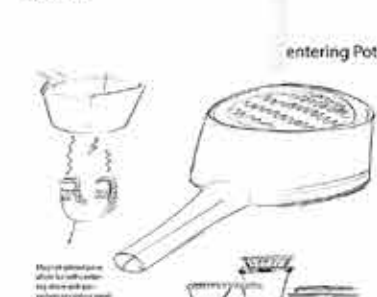
Silicon Edging Pot Set



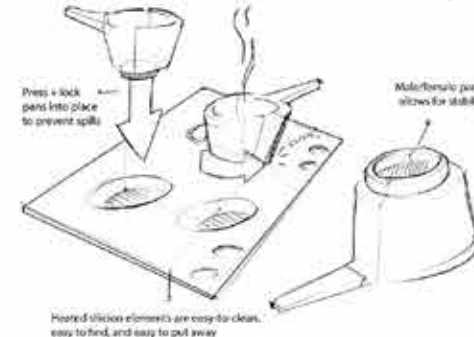
Push N' Feel Measuring Cup



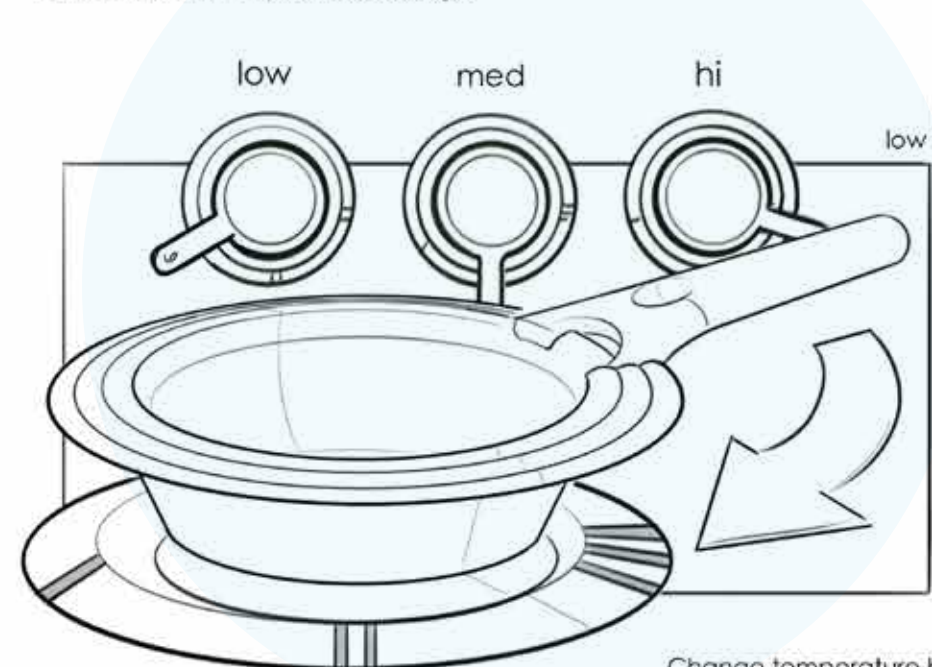
Bottom form prevents bowl from knocking over + spilling



Press N' Lock Stove System

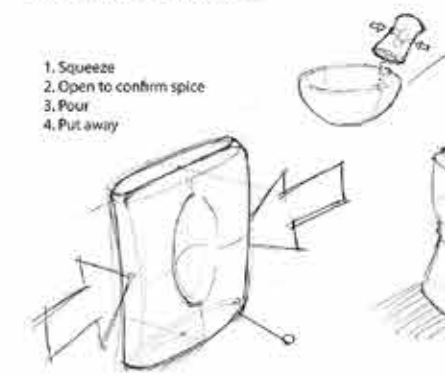


Audible beeps allows for additional confirmation of temperature change



Change temperature by shifting orientation of pot handle

1-Pour Spice Packets





FINAL MOCK-UP



Above: Final mock-up of product: pink foam, Spackle, laser-cut pieces, and vacuum formed plastic forms
Bottom: Close-up of pot, safety ring, and controls

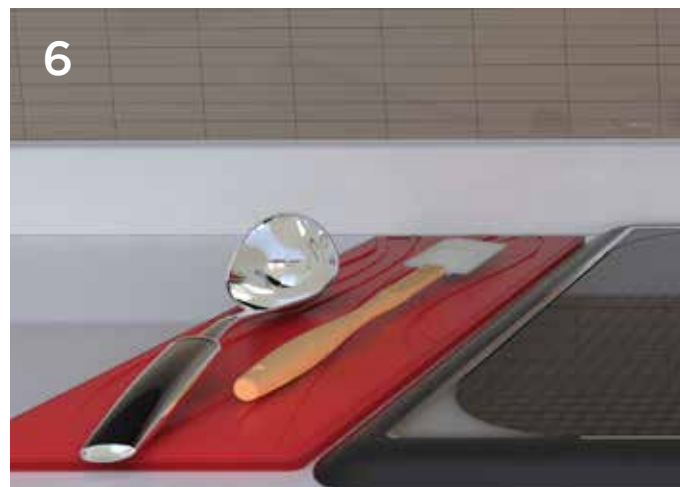
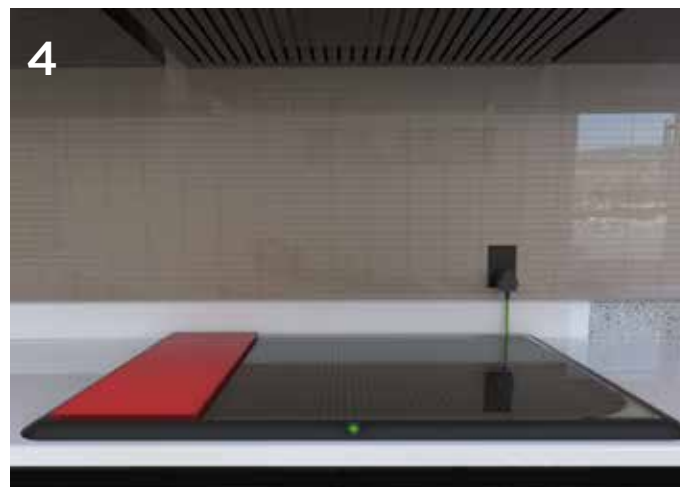
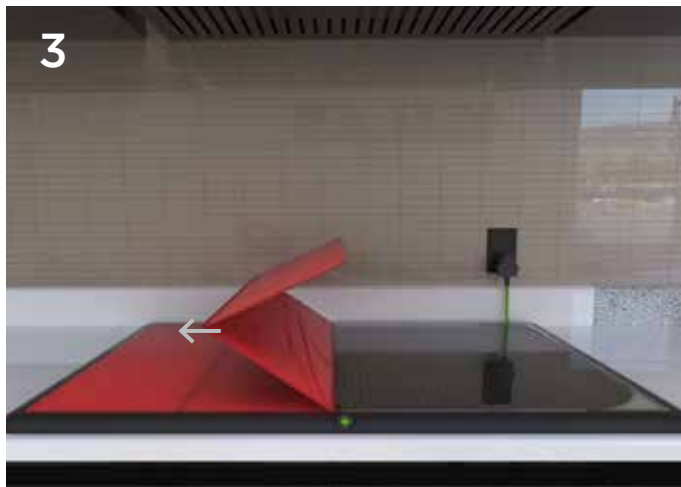
Housewares International Competition

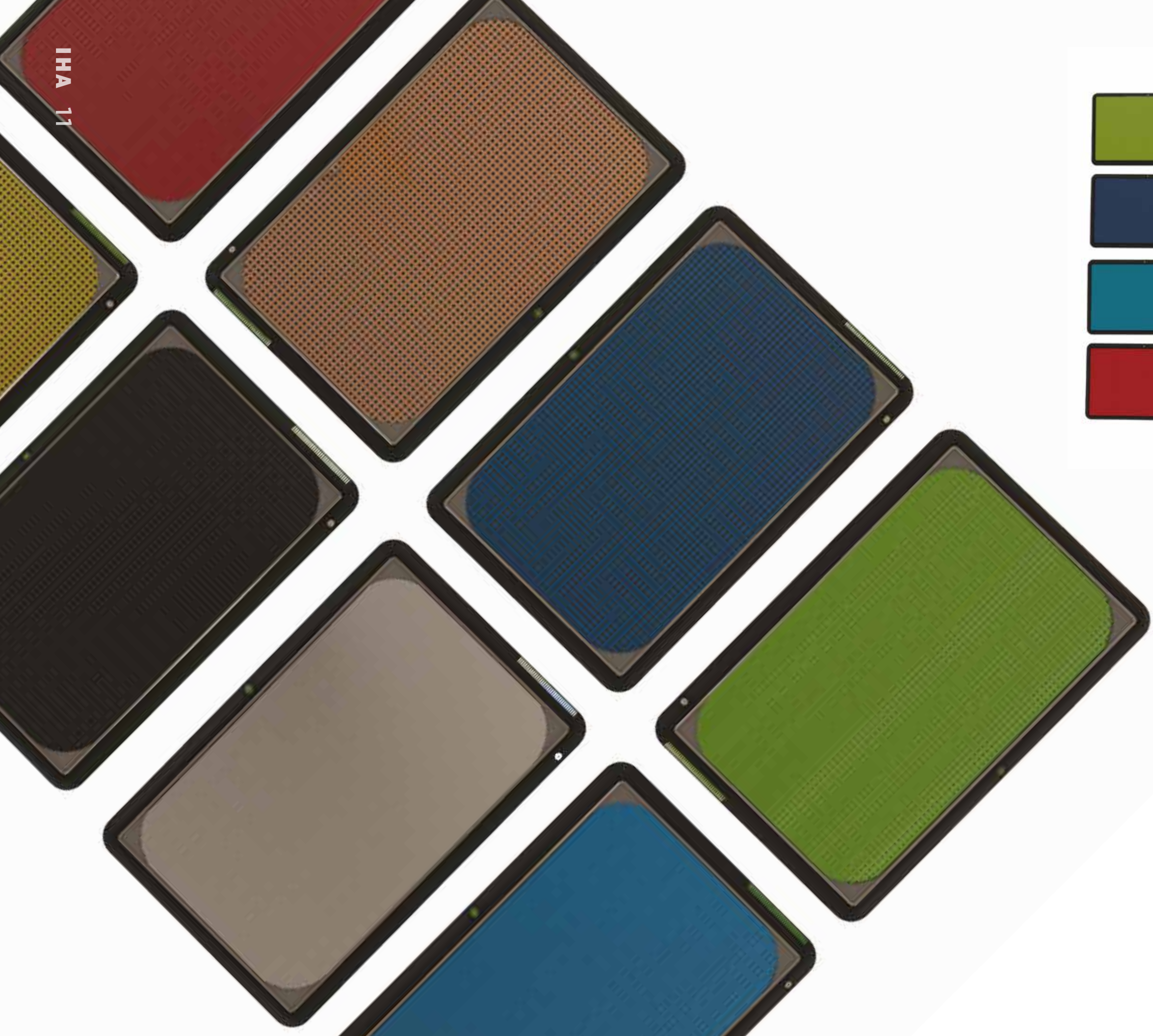
SOLO [COOKWARE]

Designed with the blind in mind, this portable stovetop replaces outdated burners with innovative induction heating. **Place any pot anywhere on the stovetop.** Heat centers directly under the burner regardless of pot placement.



Portable stovetop features magnetic silicon cover. Shown below, the **cover easily folds to either side of the stovetop, allowing for additional use as drip-plate**. Low-relief texture remains easy-to-clean.





IHA 11



CUSTOMIZE

As a product designed for all, consumers can choose from 8 silicon covers and 8 metal plating, allowing for maximum customization.

WHY ADD COLOR?

This product is designed for everyone, not just the visually-impaired. Adding color options encourages this connection.

Housewares International Competition

SOLO [COOKWARE]



A child wearing a yellow and white striped shirt is playing with colorful toys. The child is holding a red and green block with a smiley face. In the background, there is a blue Fisher-Price toy and a yellow bin. The scene is bright and cheerful.

Fisher-Price®

Fisher-Price Sponsored Project
ROCKIN' ROLLIN' SAM

You'll never meet anyone more fruit-loving, over the top rollin', and all out rocking like Dino Sam. He's all about the thrill, the adventure, and yummy fruit. Won't you join 3-in-1 Sam on the adventure of a lifetime?

USERS



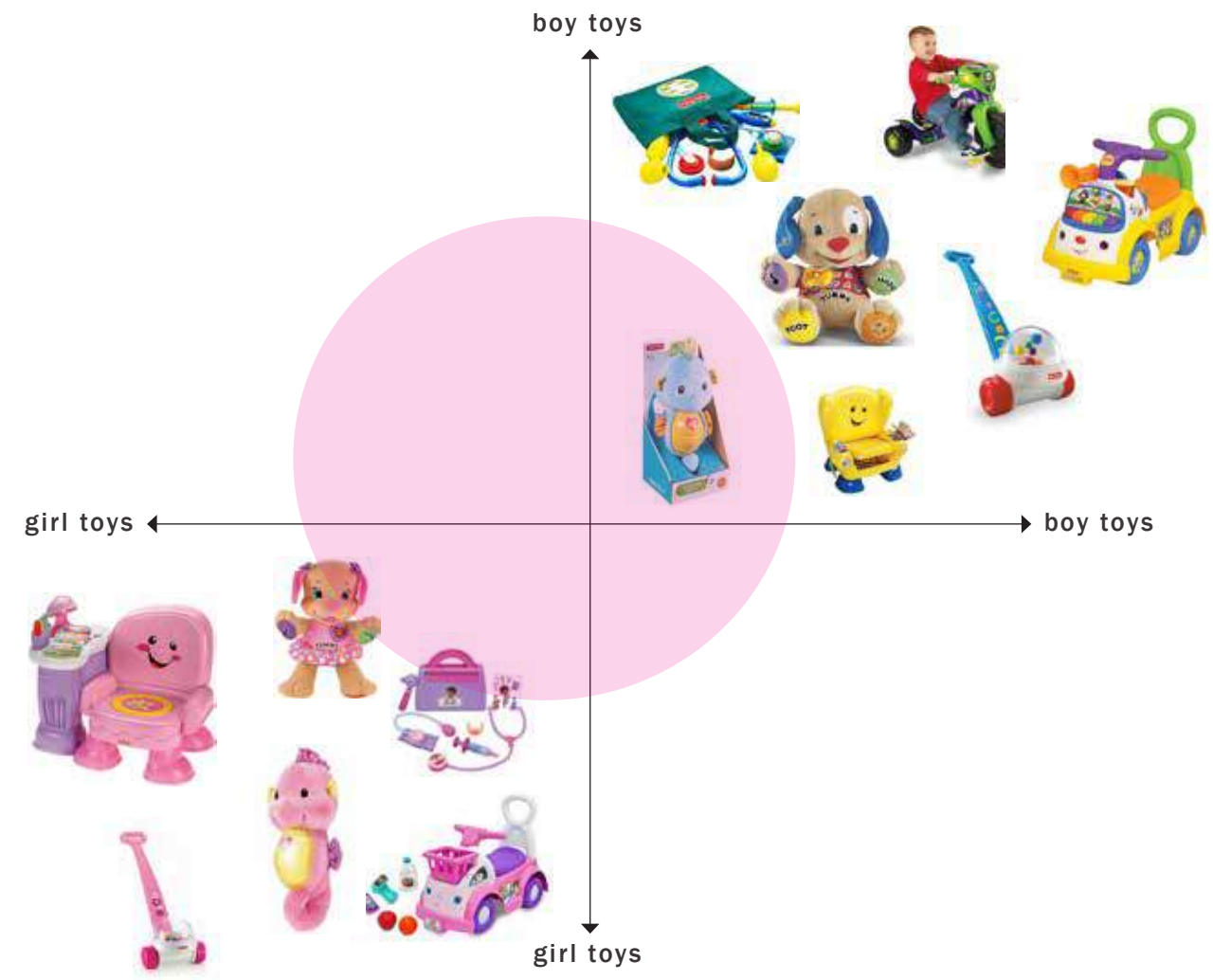
The desired age group for a Fisher-Price product is **3-5 years of age**. At this age, children participate in imaginary play, begin shared play (with other children), complete tasks, and follow simple instructions.

WHAT KIND OF TOYS ARE AVAILABLE?



AVAILABLE TOYS

CURRENT FP TOYS



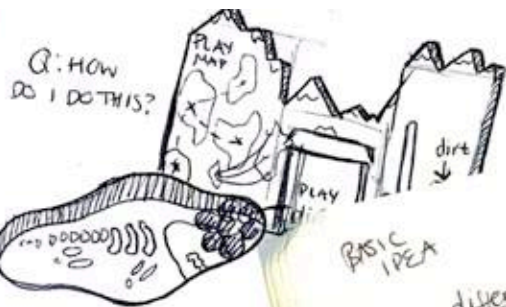
Why would Mattel, a fortune 500 company, be wasting manufacturing costs, materials, and design resources to make two of the same product?

Designing a preschool toy for both boys and girls would meet shifting market demands and lessen the implications of designing two of every toy.



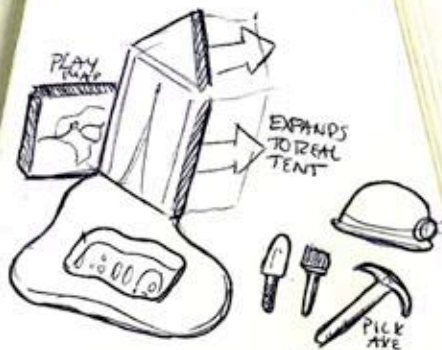
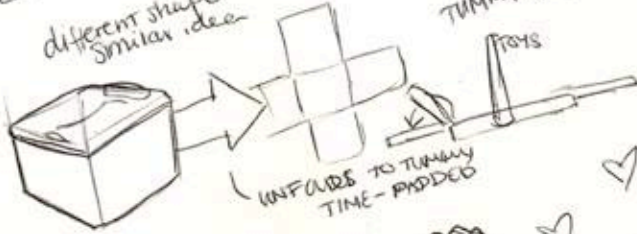
EXPLORER PLAYSET

- ① Climbing
- ② Camping
- ③ Nature

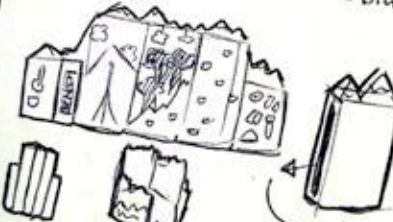


Q: CAN IT BE CHANGABLE? STYLE?

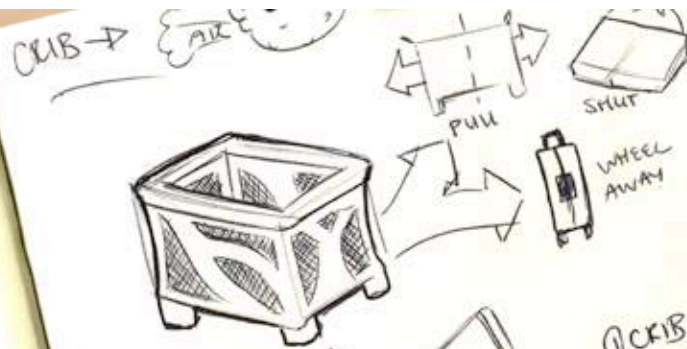
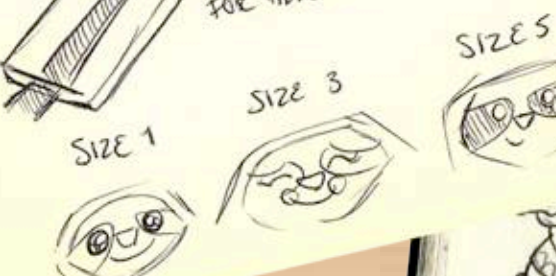
different shape similar idea



① EXPLORER → CAMPSITE → DIG



SEATBELT CAN BE PIRED THROUGH FOR ADDED SAFETY



Set up apt w/ email w/ Amy



① GIGGLY

② LULU

③ HEAR

④ FISH

⑤ REFLECTOR W/ KISS LOCK



TBWLTS OPEN

PALLY LOVES FRUIT!



IM HUNGRY RABBIT

"HIDIE!"

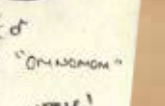
① "SAM"

- ② game play
- ③ ROCKER
- ④ RIDE-ON

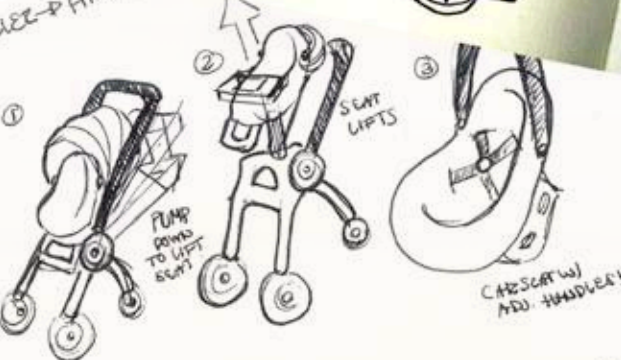


ATTACH HERE

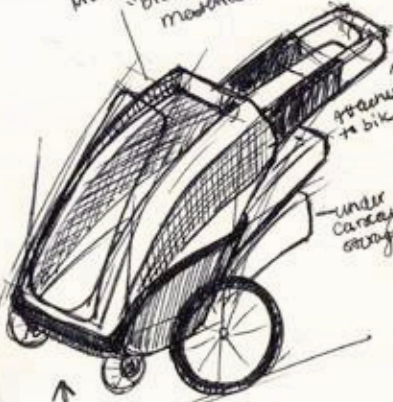
"GRASS"?

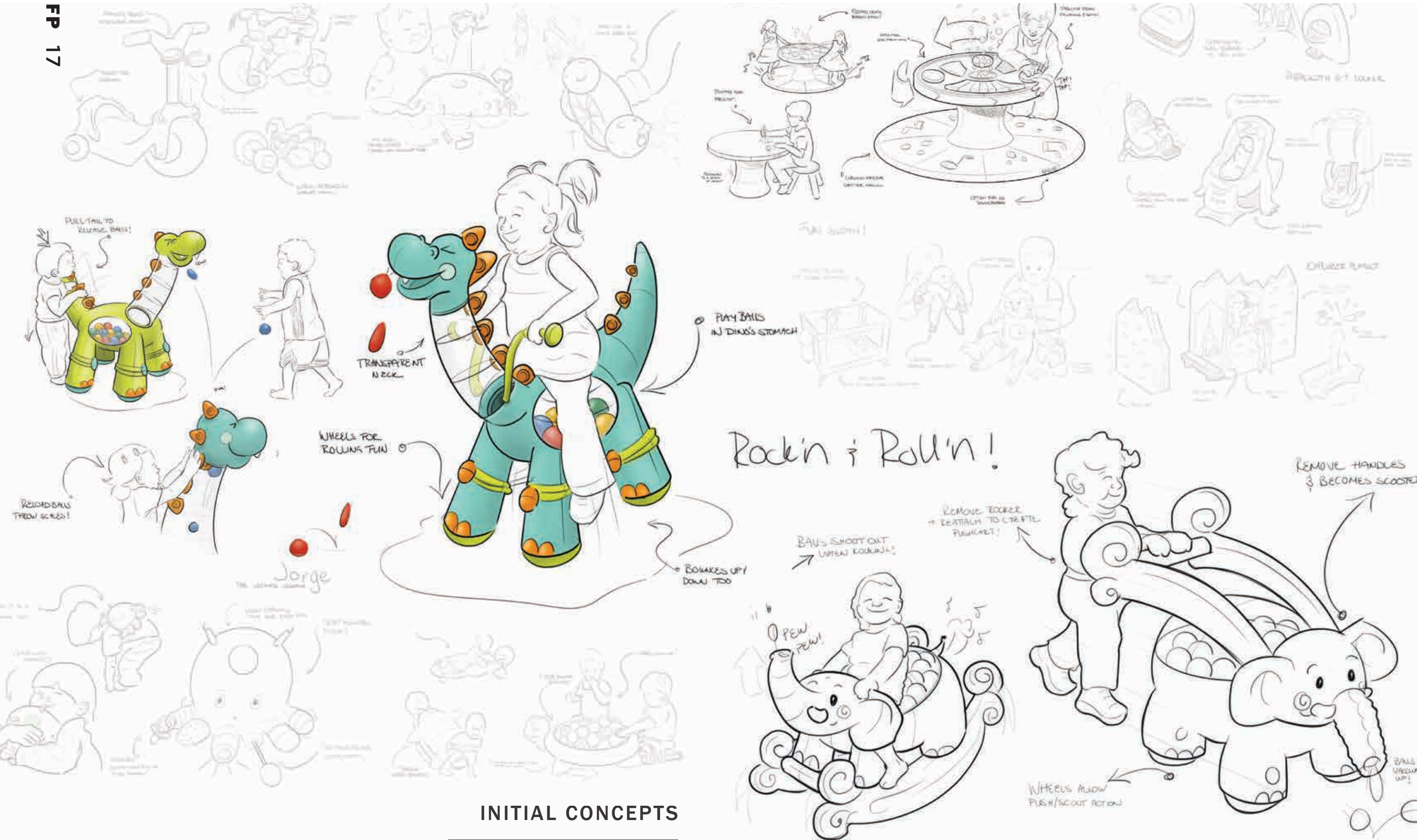


① STROLLER - HIGH

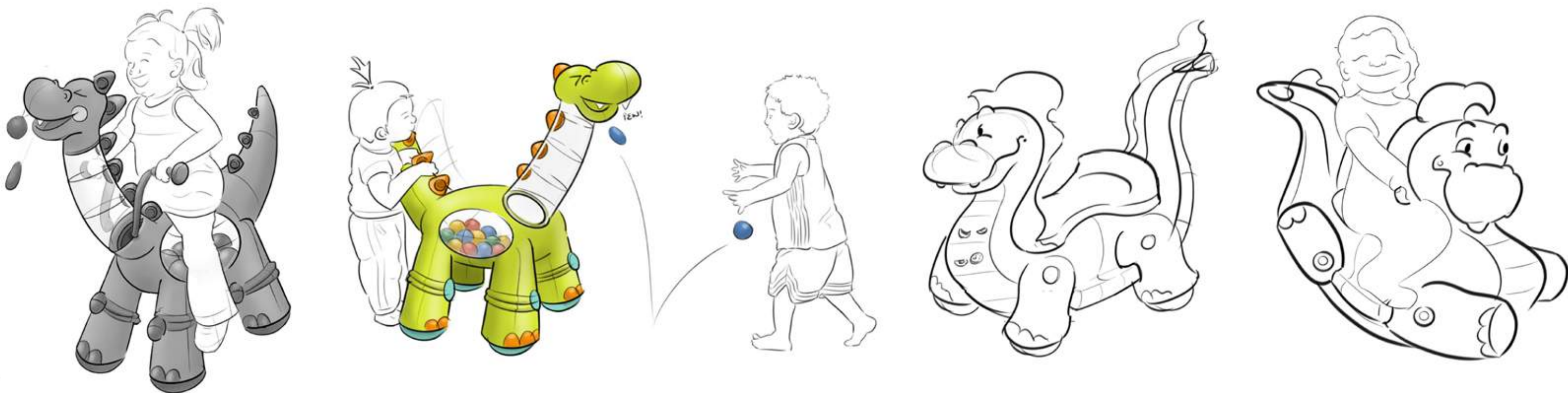
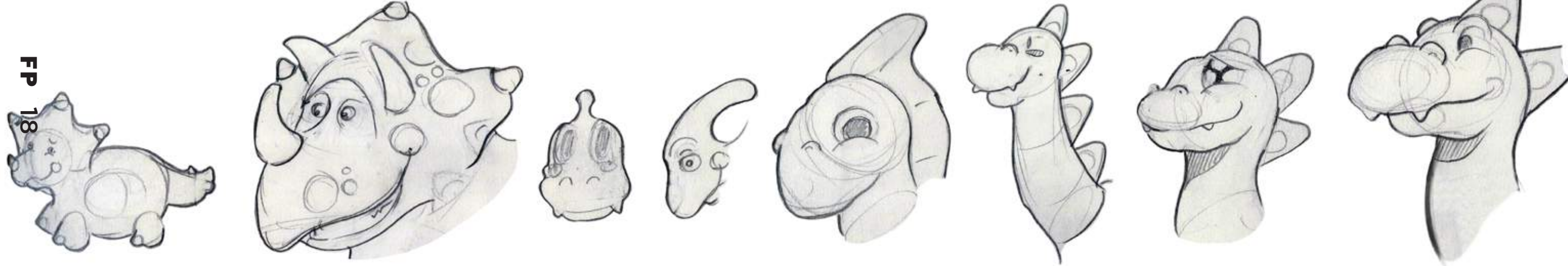


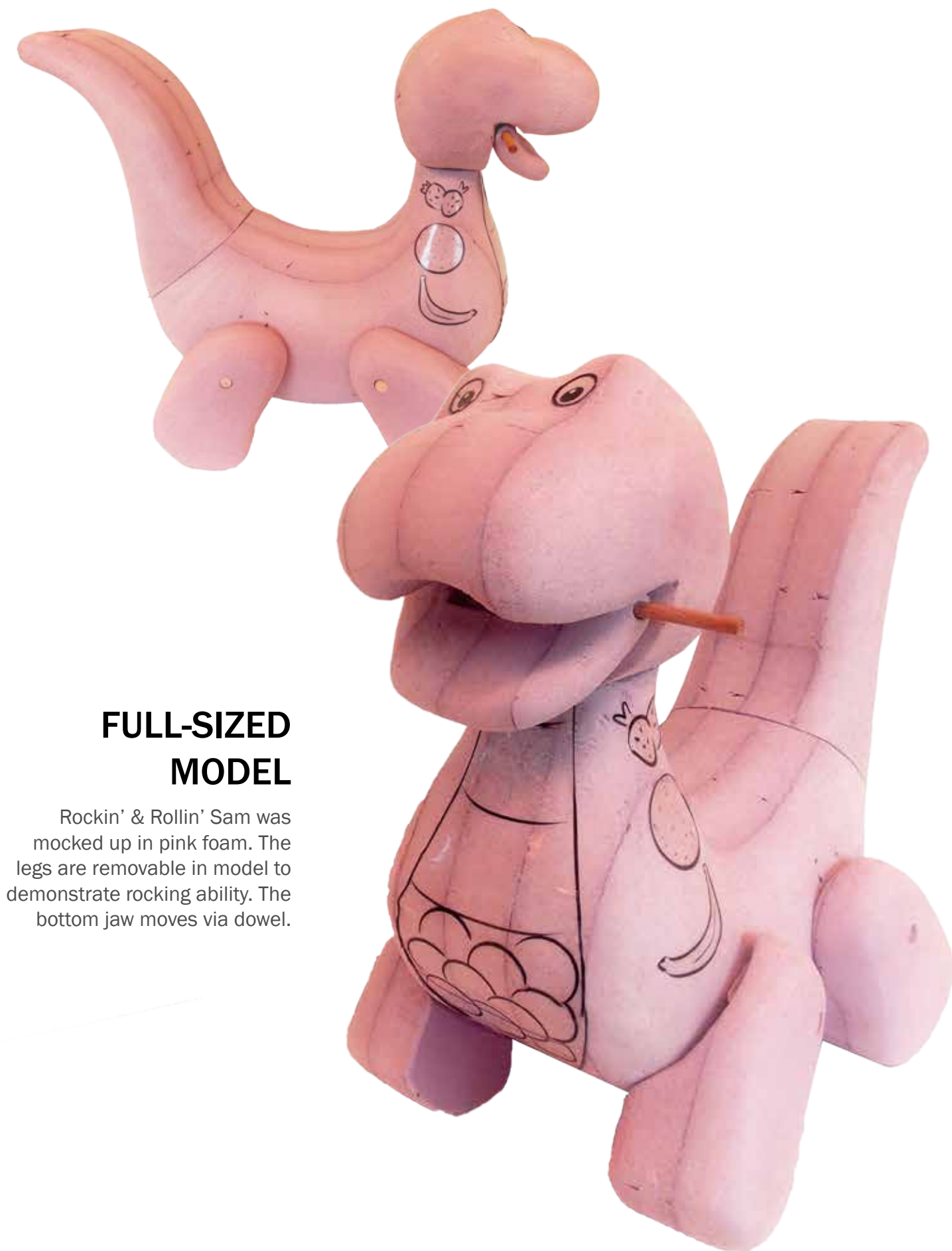
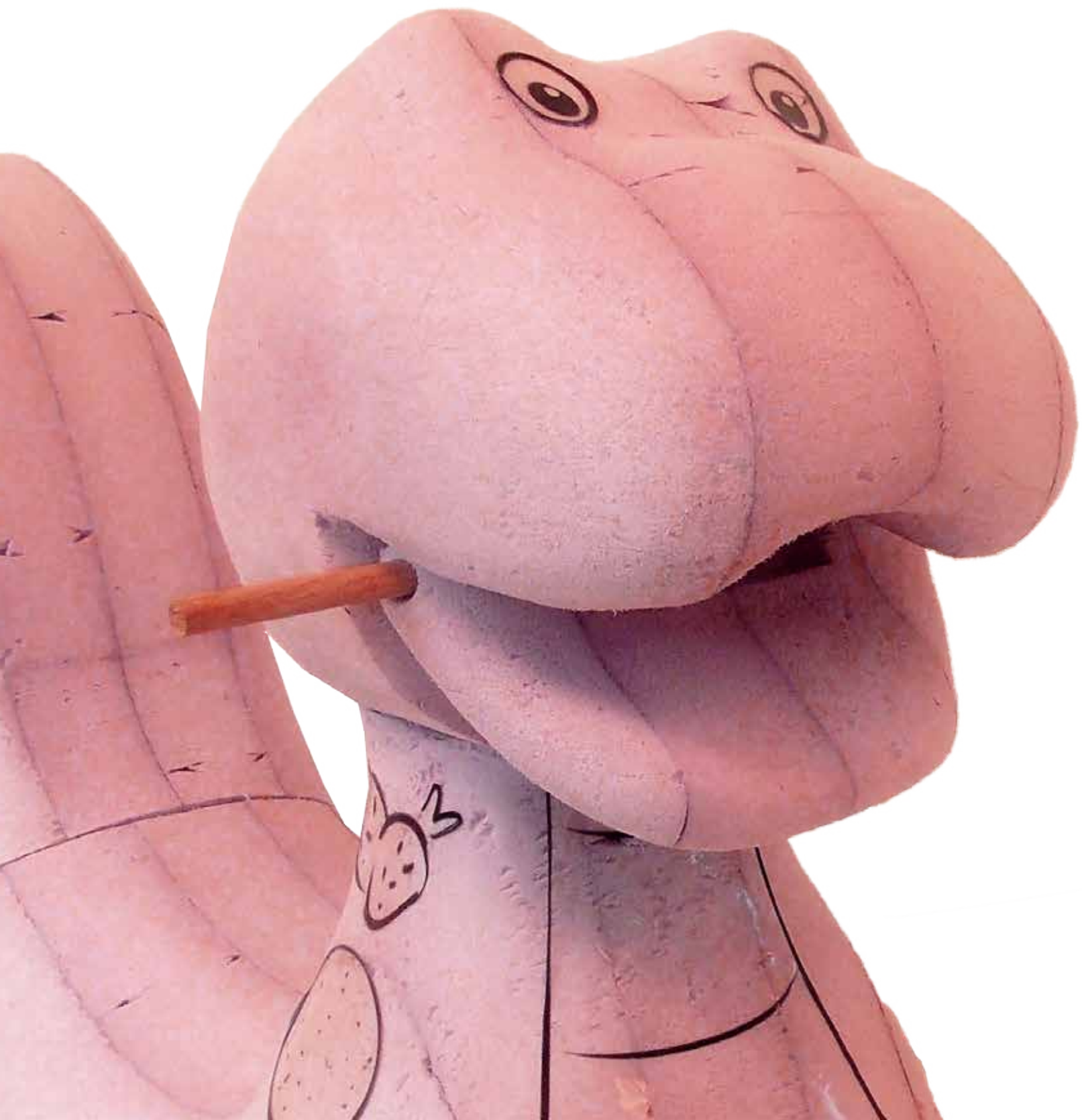
Mesh + other "breathable" material





INITIAL CONCEPTS





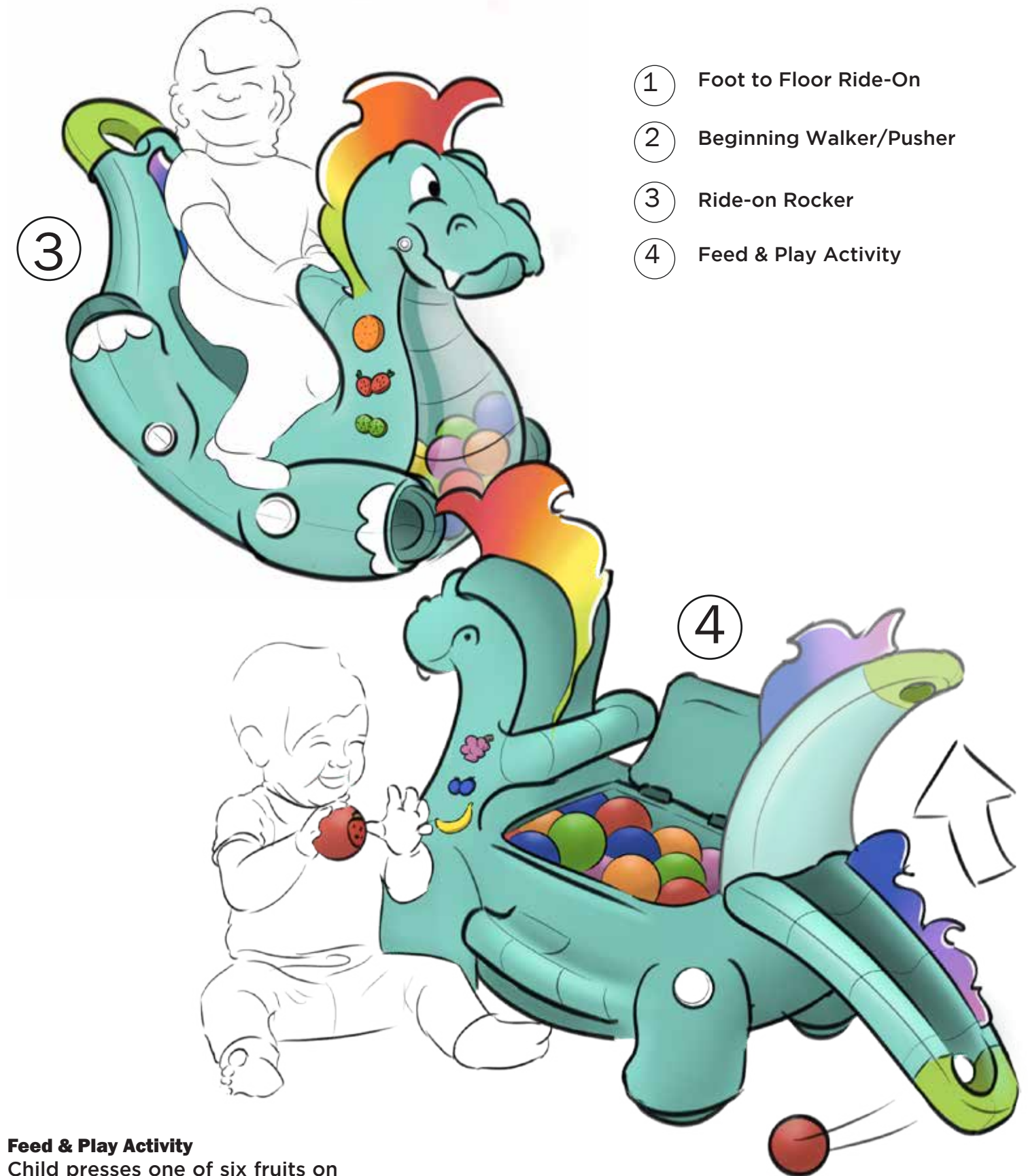
FULL-SIZED MODEL

Rockin' & Rollin' Sam was mocked up in pink foam. The legs are removable in model to demonstrate rocking ability. The bottom jaw moves via dowel.

Fisher-Price Sponsored Project

ROCKIN' ROLLIN' SAM

You'll never meet anyone more fruit-loving, over the top rollin', and all out rocking like Dino Sam. He's all about the thrill, the adventure, and yummy fruit. Won't you join 3-in-1 Sam on the adventure of a lifetime?



- ① Foot to Floor Ride-On
- ② Beginning Walker/Pusher
- ③ Ride-on Rocker
- ④ Feed & Play Activity

Feed & Play Activity
Child presses one of six fruits on Sam! Sam request chosen fruit playfully. Child must find coordinating ball color and feed to Sam!



Saint-Gobain Design Submission

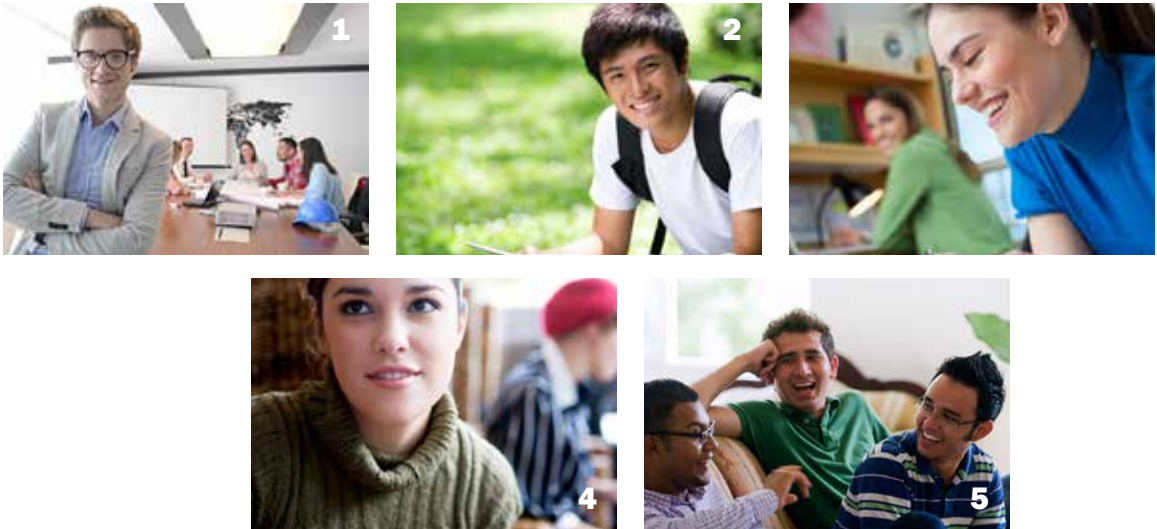
SENIOR THESIS

Current living room furniture is bulky and difficult to move. Easy-to-move and affordability are out of reach for twenty-somethings, recent grads, and young professionals.



LIVING ROOM FURNITURE IS NOT
DESIGNED TO BE MOVED INTO AND
OUT OF A HOME.

USERS



Easy-to-move, disassembled flat, high-quality/high-design,
and affordable furniture marketed towards millennials will
**diminish throw-away culture and foster an “arts +
crafts” mentality** towards objects and furniture alike.

Young Professionals	1
Upperclassmen	2
College Students	3
Graduate Students	4
Twenty-somethings	5

RESEARCH

DESIGN | TREND RESEARCH

joints | inspiration

DESIGN | RESEARCH EXPERIENCE

1 annoying additional items
2 tricky maneuvering
3 angling tight corners difficult

narrow doors 1
multiple doors difficult 2
unable to hold + move 3

DESIGN | RESEARCH SURVEYS + INTERVIEWS

"In the past two years, how often have you moved?"

Once a year 50%

"When choosing new living room furniture, how important are style and aesthetics?"

Very important 52%

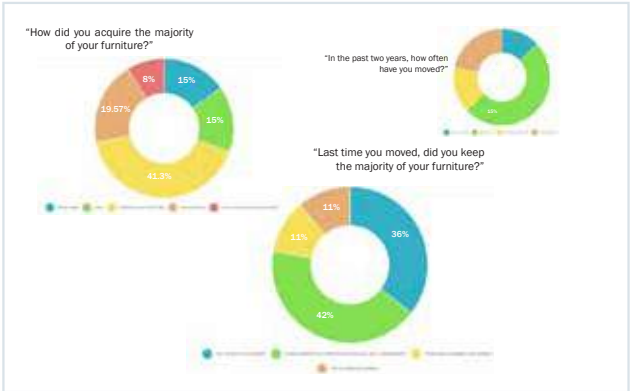
"Last time you moved, did you keep the majority of your furniture?"

"I threw out old or outdated items" 42%

49 surveys | 15 interviews

CRAPPY LIVING SPACES

1) No space. Living space often small, cramped, or shared by many people
2) Hand-me-down furniture, mismatched, old, used, etc.
3) Attempts to decorate by using slipcovers, rugs, wall hangings, etc.
4) Living space often doubles as storage/secondary space: bikes, laundry, office, bedroom



In-person Interviews: Undergraduate Students

Sam, 19; Anthony, 20; Nicholas, 20

Most disliked furniture: sofa with many pillows is difficult to feel comfortable; sofa is large and bulky; a hand-me-down from family. Fabric is dirty and retains pet scents; difficult to clean

Most loved furniture: leather recliner; easy-to-clean, comfortable and supple.

CARGO SPACE LIMITATIONS

MARKET RESEARCH

Expensive

Affordable

Collapsible

Not Collapsible

Research | STATS

MILLENNIALS

27% of US pop.

MOVING

3.7M college grads in '16.

2/3 consider renting better than homeownership.

GROWING MARKET, CHANGING TASTES

\$100B+ industry, and growing.

7/10 consumers shop online.

DESIGN | CARGO LIMITATIONS

example | 2013 Honda Insight LX

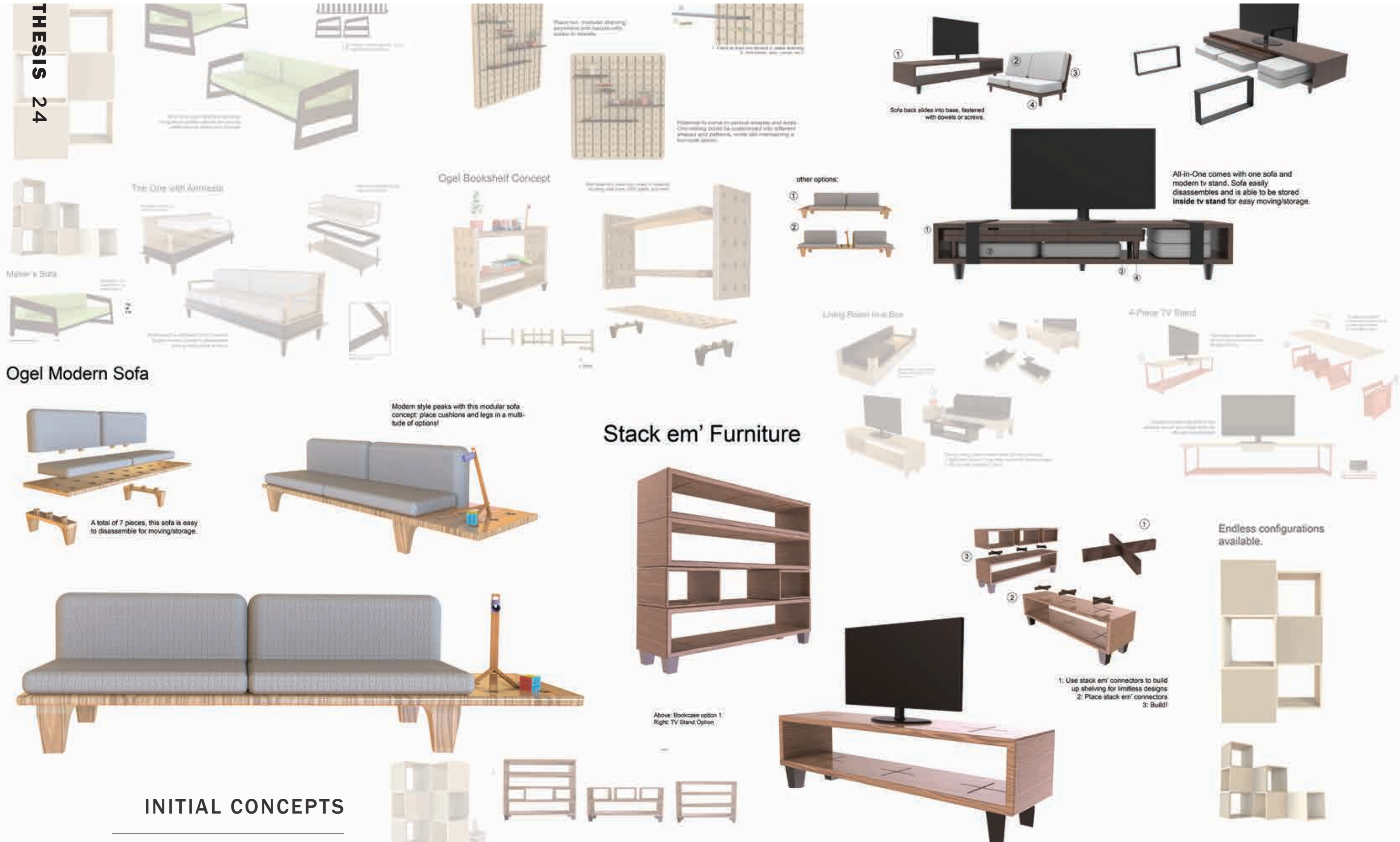
15.9 cubic feet behind the 60/40-split rear seats or 31.5 cubic feet with those seat-backs folded down. 67" x 40" seats folded down.

1

2

4

We rented a truck.
We moved a living room.
We documented.



Saint-Gobain Design Competition

250 FURNITURE

When put it together, it is up to you how you do it. Each piece is modular and allows for ultimate personality. Made for a life on the move and generously priced at \$250 or less.



Sofa features modular plug n' place building system in which the user can place the legs and seat cushions in a variety of positions.



Built-in back pockets for additional living room storage. When it is time to move, the legs fit neatly inside.



Saint-Gobain Design Competition

SOFA | OVERVIEW

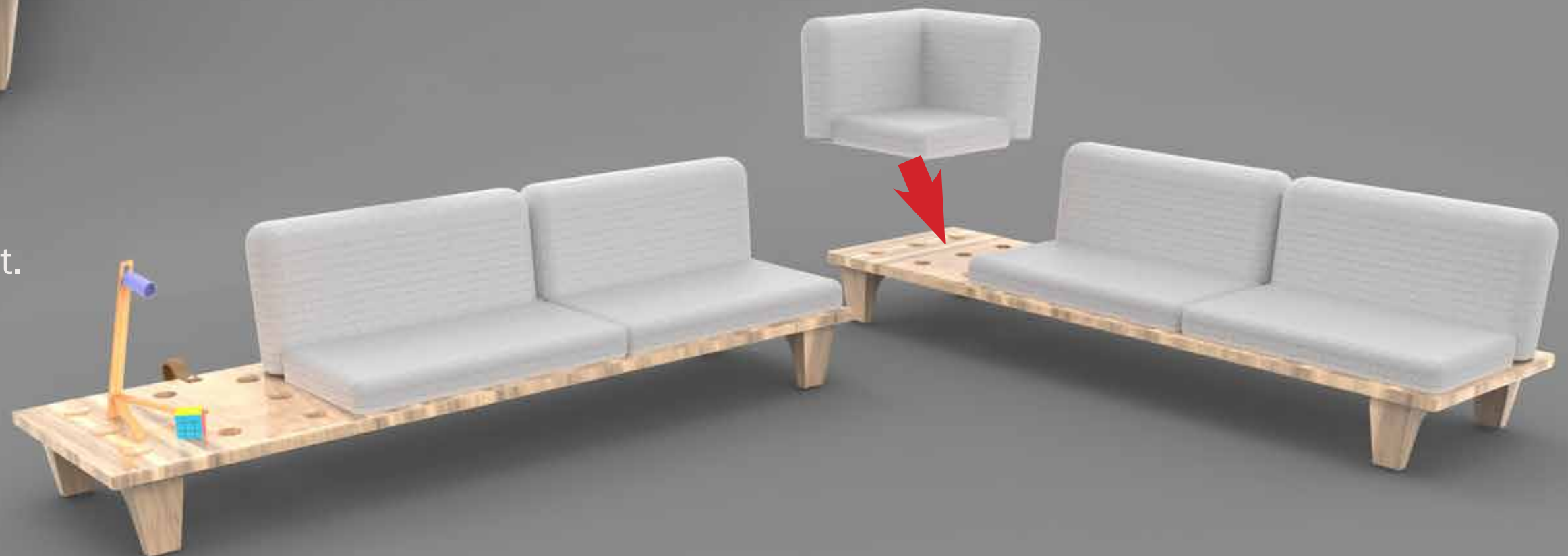
Saint-Gobain Design Competition

SOFA | EXTENDED

Purchase two sofas to create one large L-shaped sofa. Just arrange side-by-side and attach the corner piece.. or don't! It is up to you!



Change the orientation based on ANY room layout.



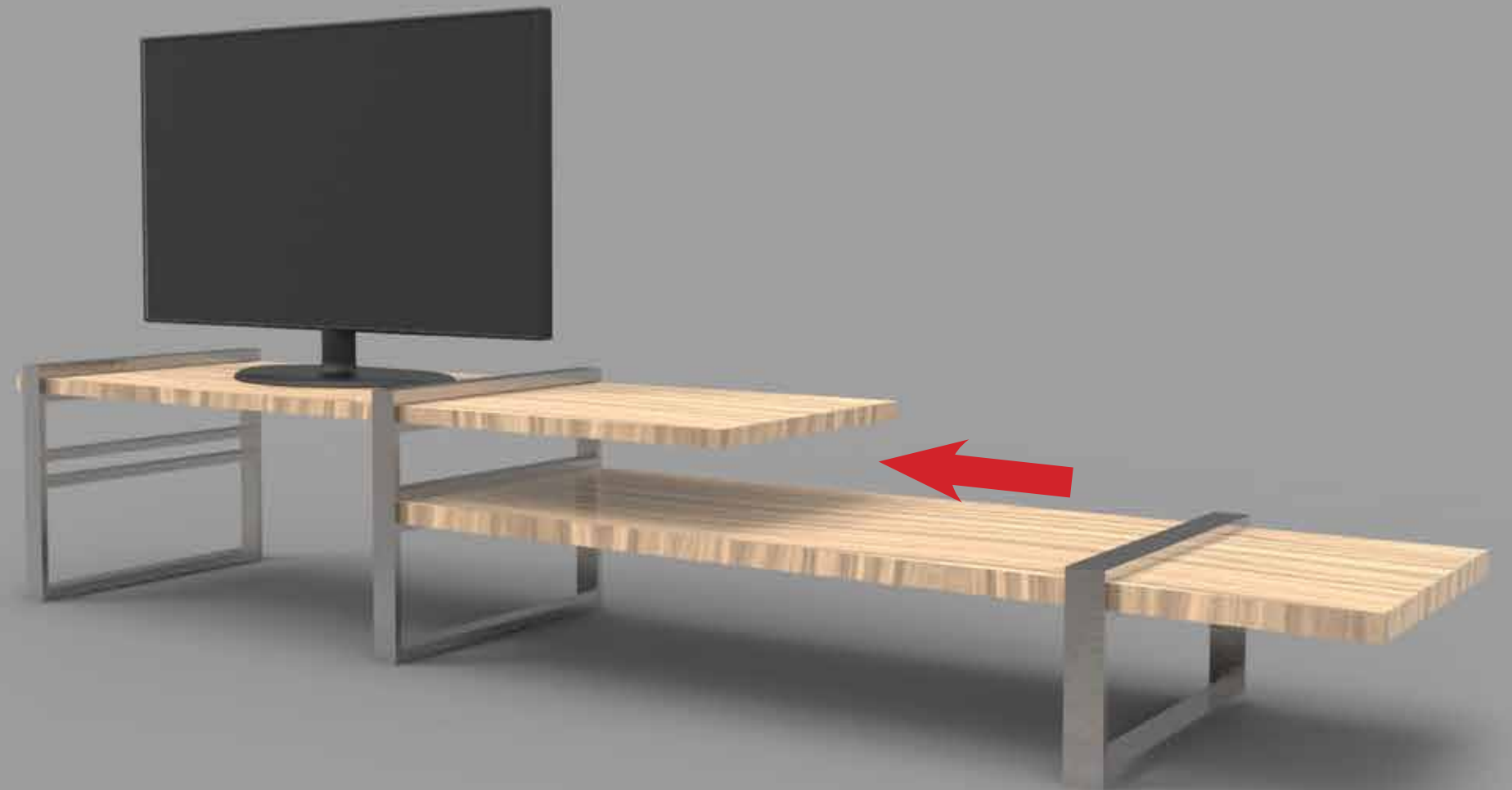
Saint-Gobain Design Competition

TV STAND | OVERVIEW

Potential Layouts:



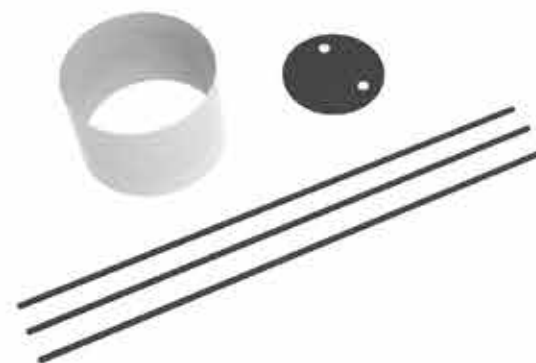
TV stand is supported by aluminum legs which allow for a wooden top to slide in between two or more legs. Entire TV stand breaks down flat for easy-to-move capabilities.



Saint-Gobain Design Competition

LIGHTING | OVERVIEW

Disassembled:



Lamp doubles as additional side table and is able to be disassembled to lay flat.



Saint-Gobain Design Competition

SHELVING | OVERVIEW

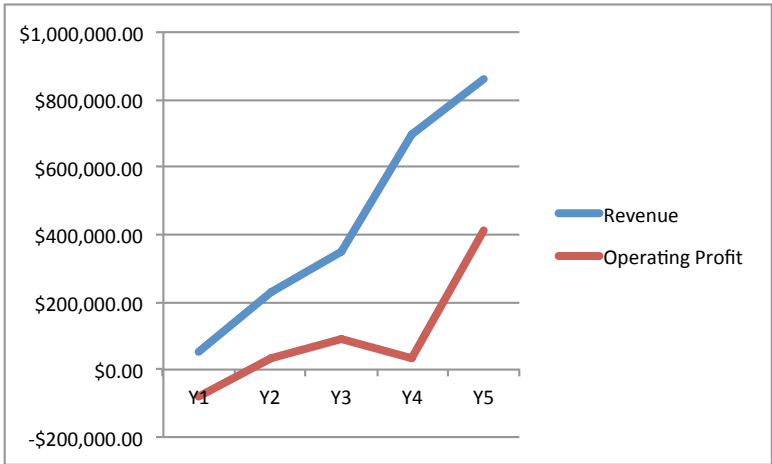


3 separate board styles allows for maximum customization of shelving function.



BUSINESS PLAN

BUSINESS PLAN | DETAILS



\$83,000 INITIAL INVESTMENT NEEDED
CASH POSITIVE IN 26 MONTHS
4500 TOTAL SALES BY FIFTH YEAR

250 Furniture has placed in both the Saint-Gobain Design Competition and the LaunchTown Entrepreneurial Grant. With the winnings, 250 Furniture will be taken to low-volume market.

MILESTONES

Prep	Q1	Q2	Y2	Y5
Social media buildup.	Pop-up 1: CLE.	Pop-up 2: CHI.	End of regular pop-ups.	Online sales through website and partners.
Initial investment.	First production run.	Website buildout + social media push.	Second round of investment.	4K+ sales, 8 person team.
Final prototypes.			Production ramp-up.	Brand following.

BUSINESS PLAN | OVERVIEW

We create thoughtfully interactive and customizable furniture that fits in the trunk of your car.

NICHE VALUE

Our products cater directly to an overlooked \$1.57B market.

DIRECT OUTREACH

High touch initial sales in pop-up shops.

NATIVE TO SOCIAL MEDIA

Building a personable online presence from the start.

MULTIPLE REVENUE STREAMS

Four products + customization + long term customers.

TWO LONG TERM SALES PLATFORMS

Half of all furniture sales are boutique, 7/10 shop online.



stryker[®]

Stryker Sponsored Project

SYSTEM 7 BONE POWER TOOLS

An ergonomic redesign of Stryker System 7 surgical tools commonly used on knee, ankle, and hip surgery. Collaborators: Caitlyn Moss, Geemay Chia, Alex Price, Adam Valco, Kevin Zehe, Katelyn Petronick, Duke Matelski, and Cameron Lada



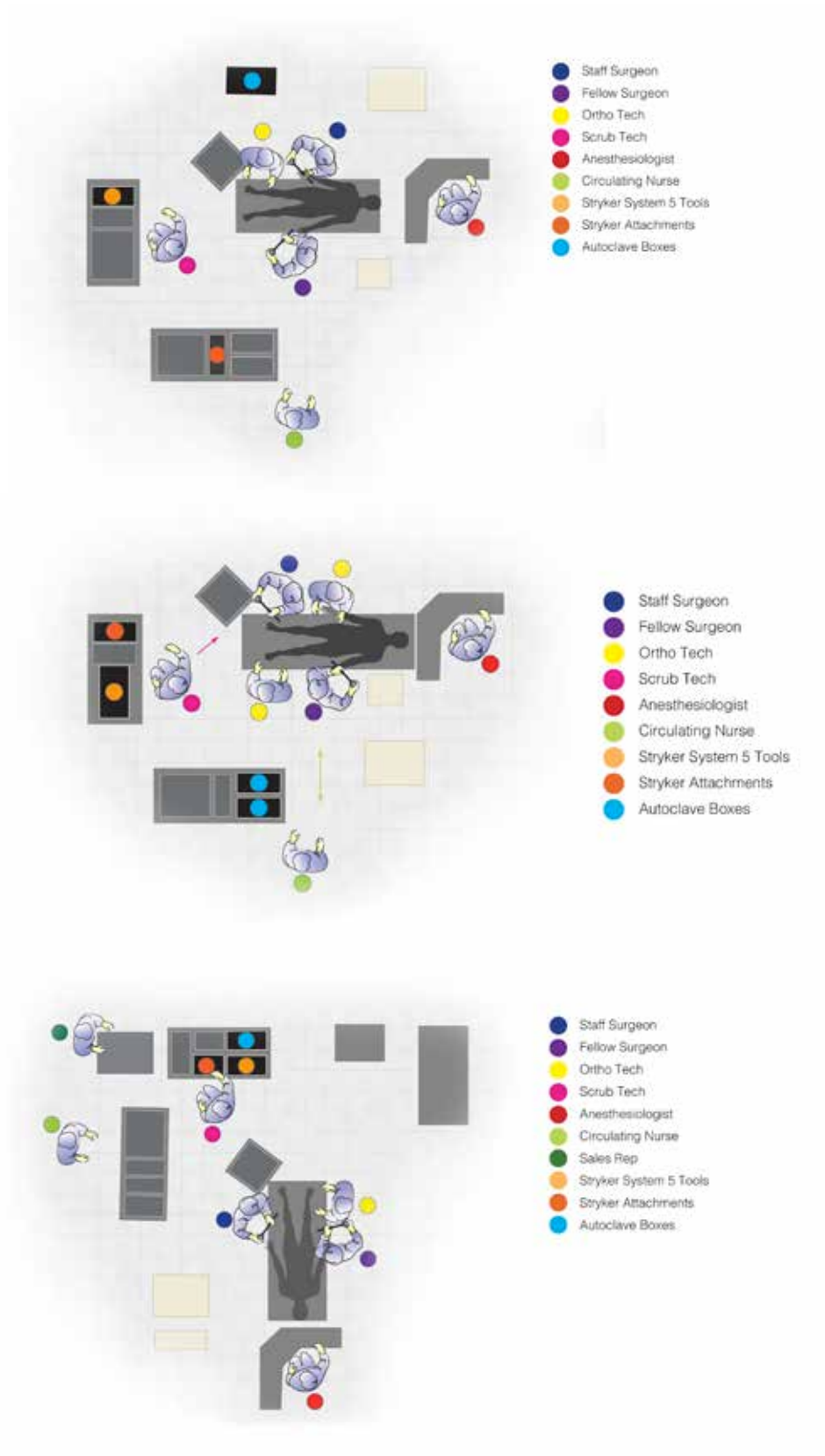
REDESIGN STRYKER SYSTEM 7



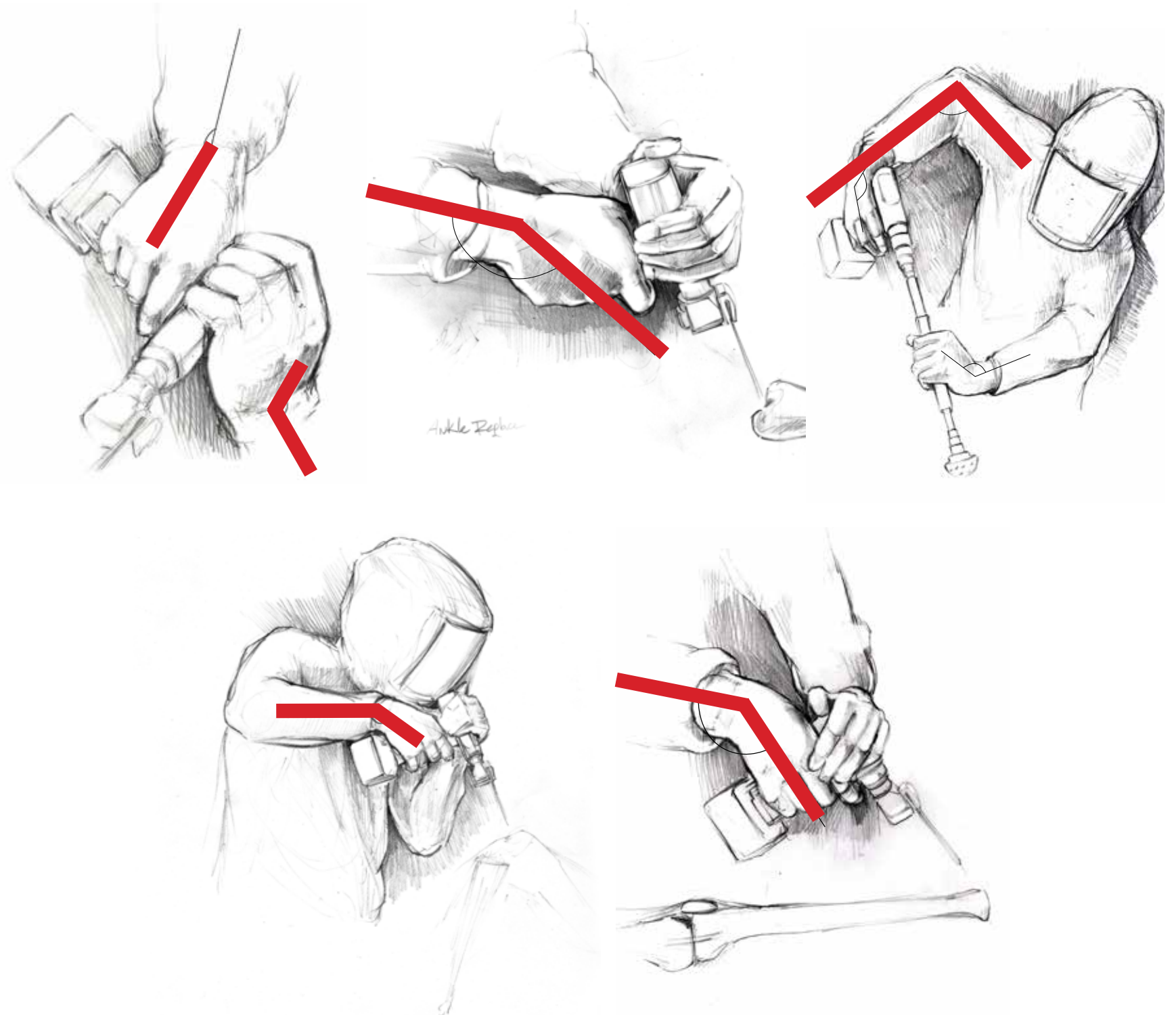
Sponsored by Stryker, our team was asked to redesign Stryker’s current surgical power tool line-up, System 7, with ergonomics in mind. We troubleshot current problems as described by world-renowned surgeons, nurses, and staff.



O.R. LAYOUTS



OBSERVATIONS ON TOOL ANGLED USE



PROBLEMS

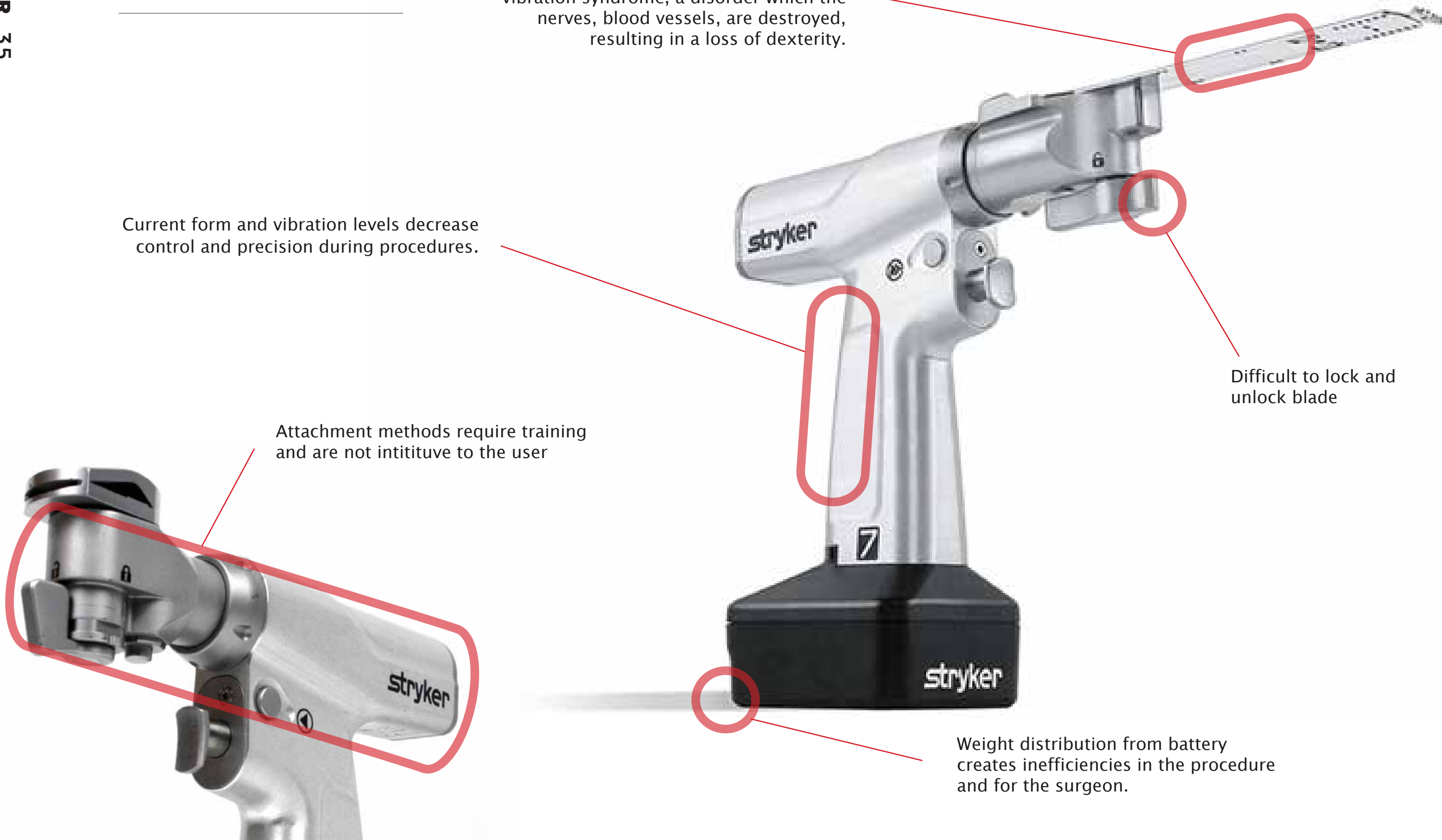
Constant vibration of saw results in hand-arm vibration syndrome, a disorder which the nerves, blood vessels, are destroyed, resulting in a loss of dexterity.

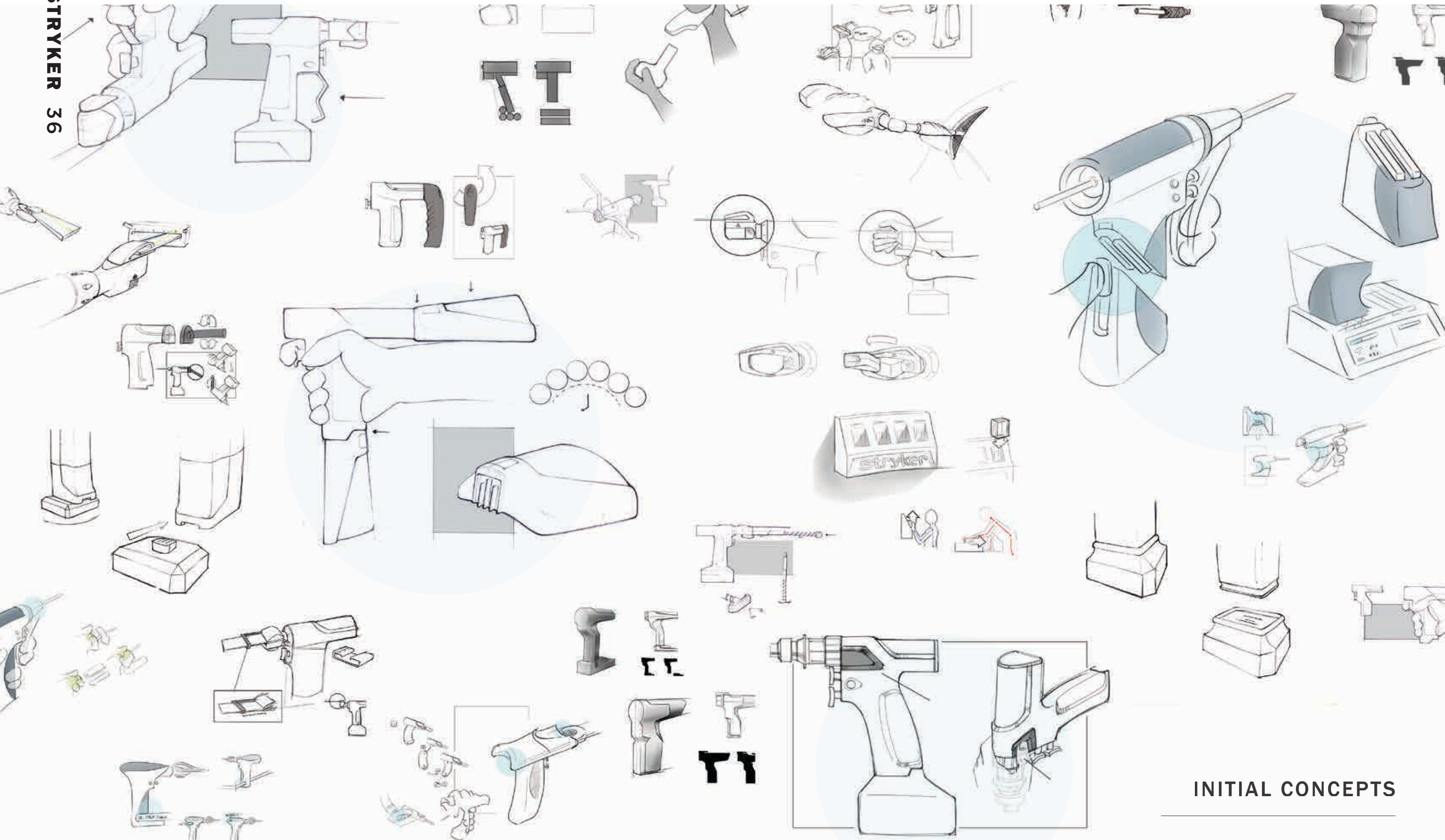
Current form and vibration levels decrease control and precision during procedures.

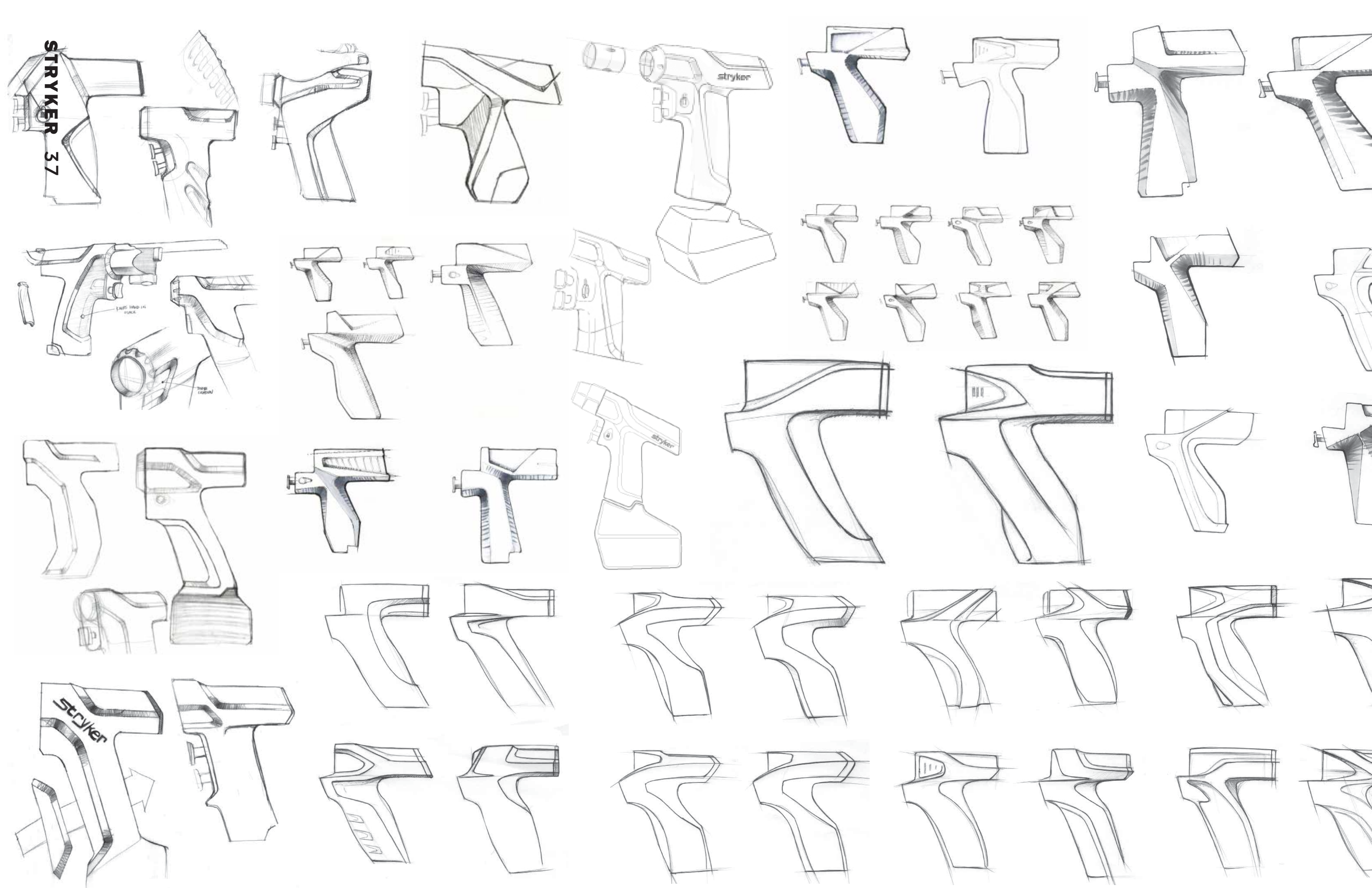
Attachment methods require training and are not intuitive to the user

Difficult to lock and unlock blade

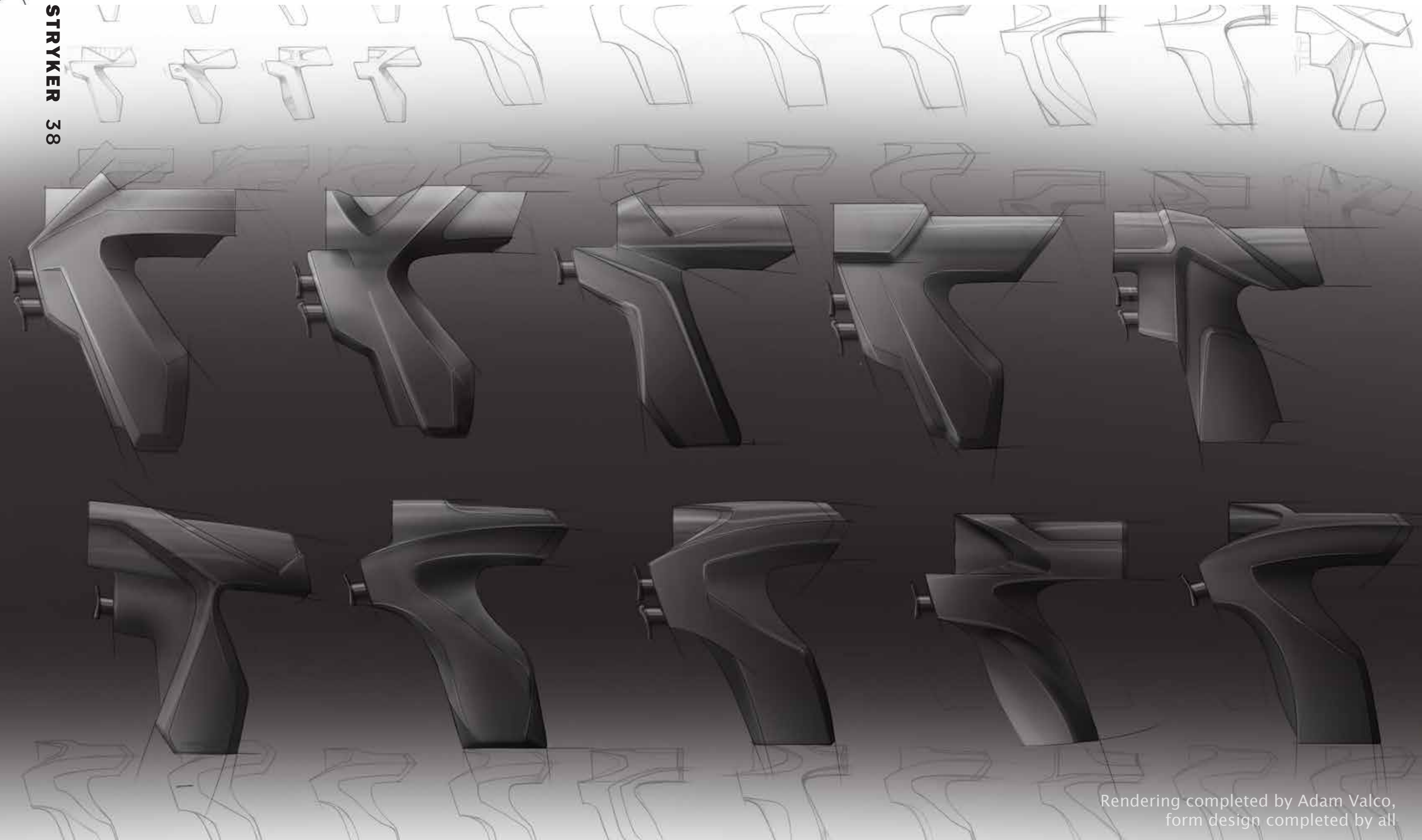
Weight distribution from battery creates inefficiencies in the procedure and for the surgeon.





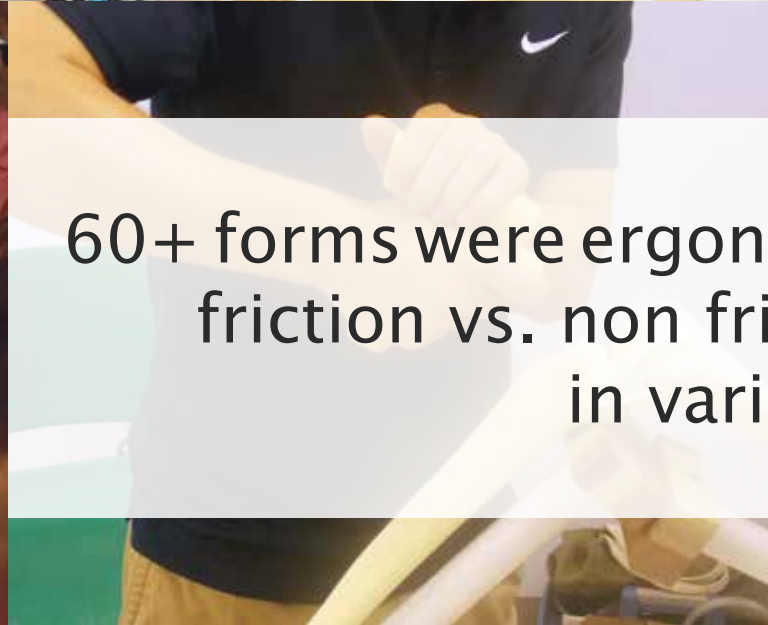


Rendering completed by Adam Valco,
form design completed by all



STRYKER 38





60+ forms were ergonomically tested for fit, weight, friction vs. non friction, and comfortability in various positions.

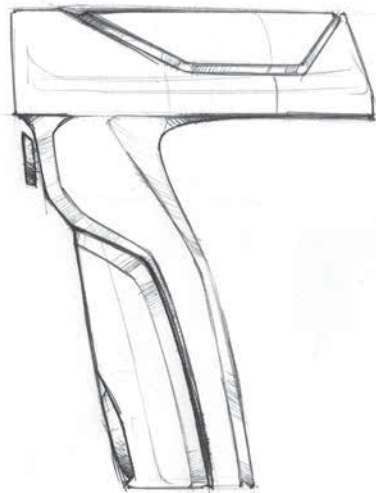
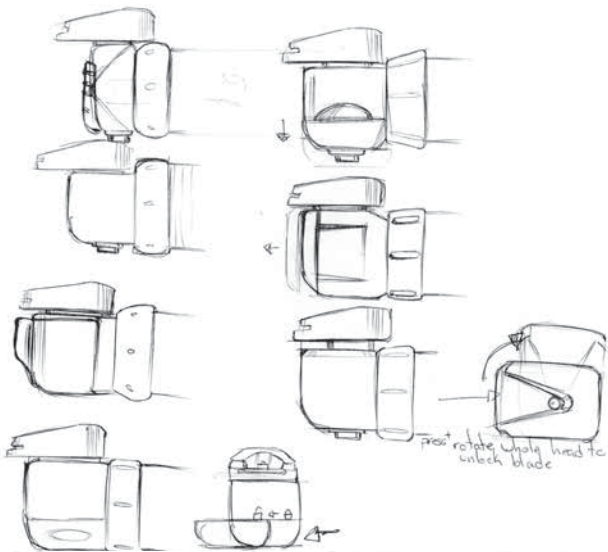
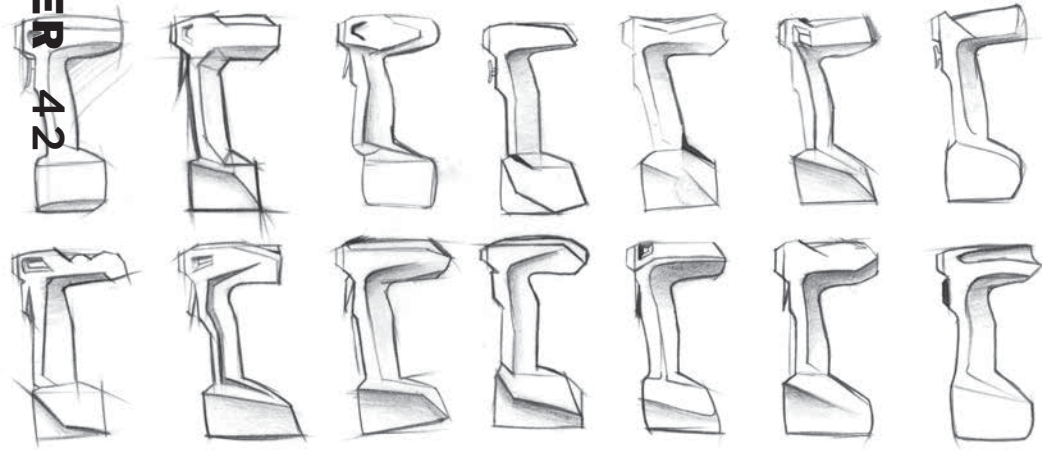




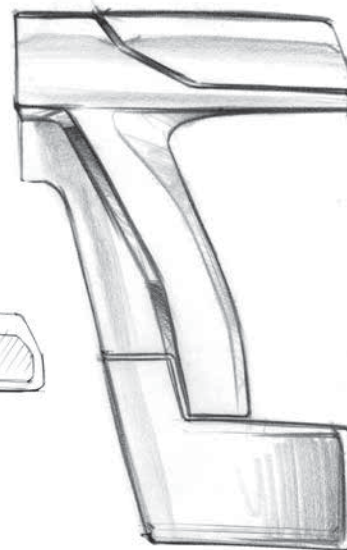
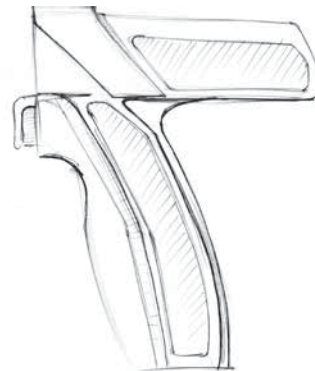
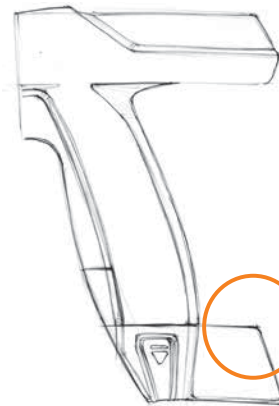
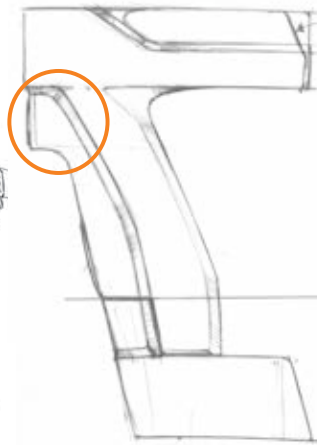
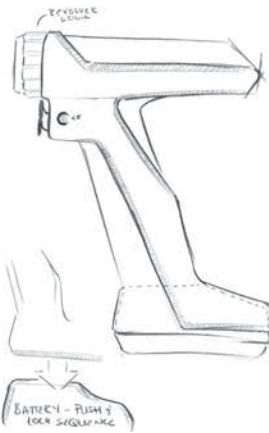
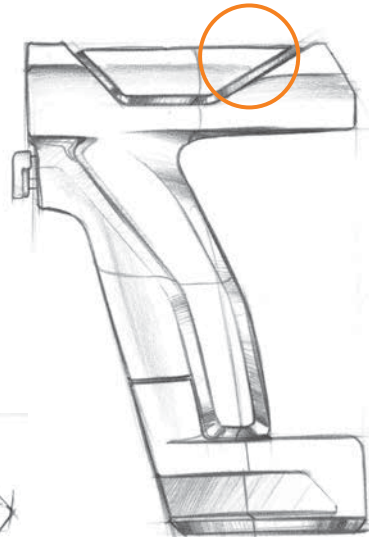
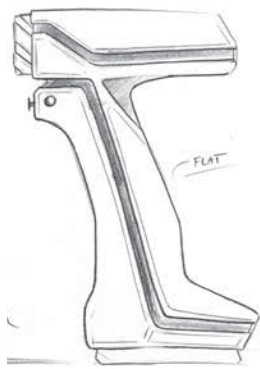
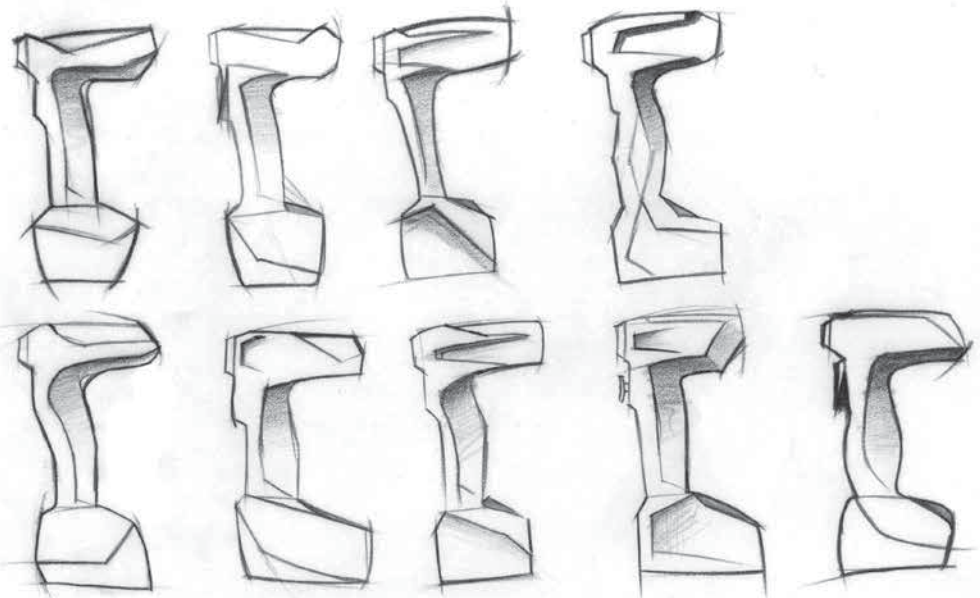
After completing initial ergonomic testing, we fabricated second round ergonomic models. These models were tested and used by real surgeons in a cadaver lab courtesy of Stryker. Like before, we tested comfort, weight, friction, and fit.

CADAVER LAB RESULTS

- ① Heavier upper mass preferred
- ② Form fitting handles over angular forms
- ③ Battery on bottom preferred
- ④ Cleanliness an issue



- Batt. Button
- Batt. Light



SECTION LINE

FLUSH

FLUSH

CONCAVE SURFACE FOR KNUCKLE

SURFACE TREATMENT FOR GRIP

FLUSH FOR SCRUB-TECH HANDLING

SECTION LINE

TEXTURED FOR GRIP

stryker®

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DOUBLE TRIGGER SAGGITAL SAW

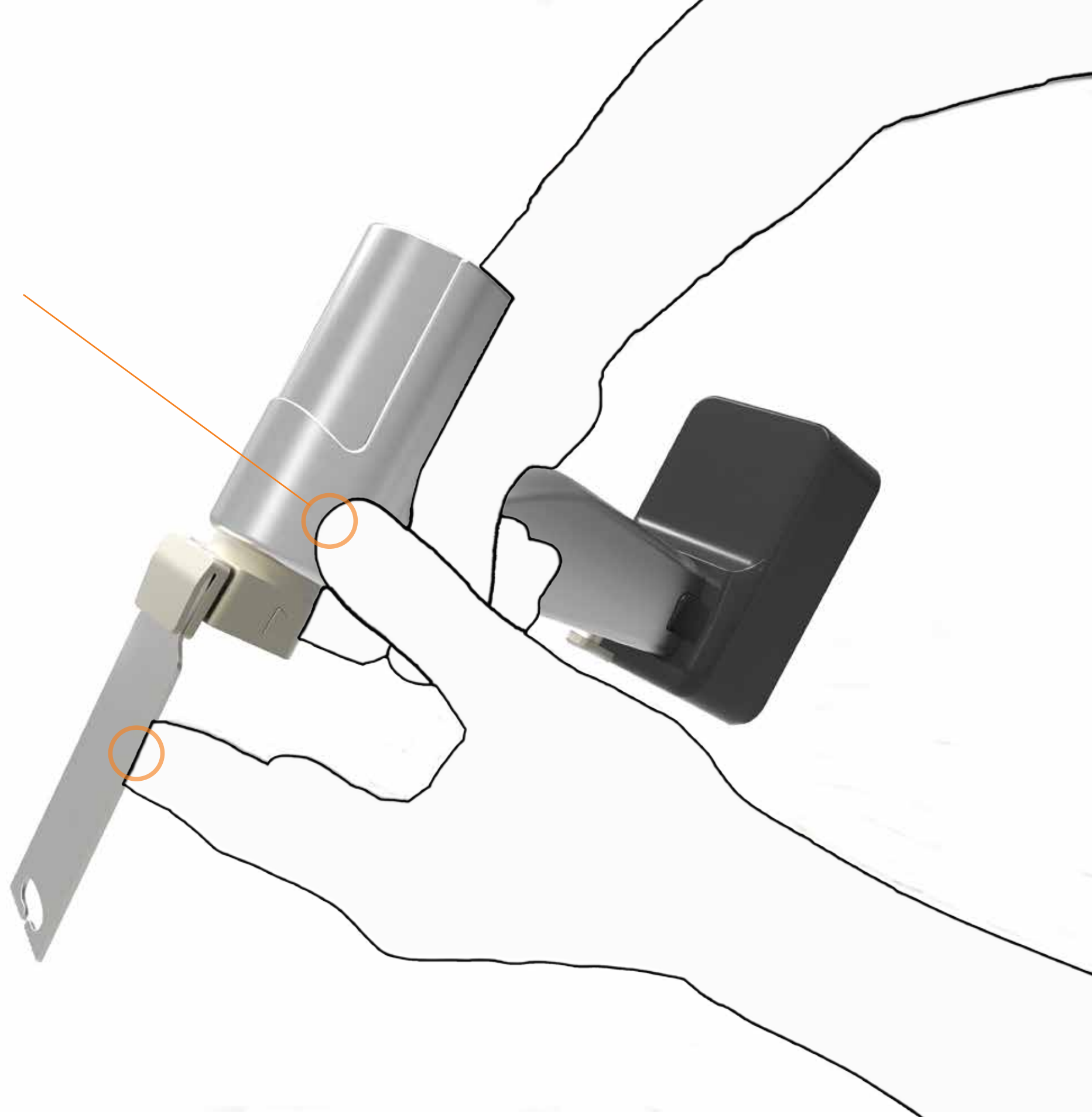
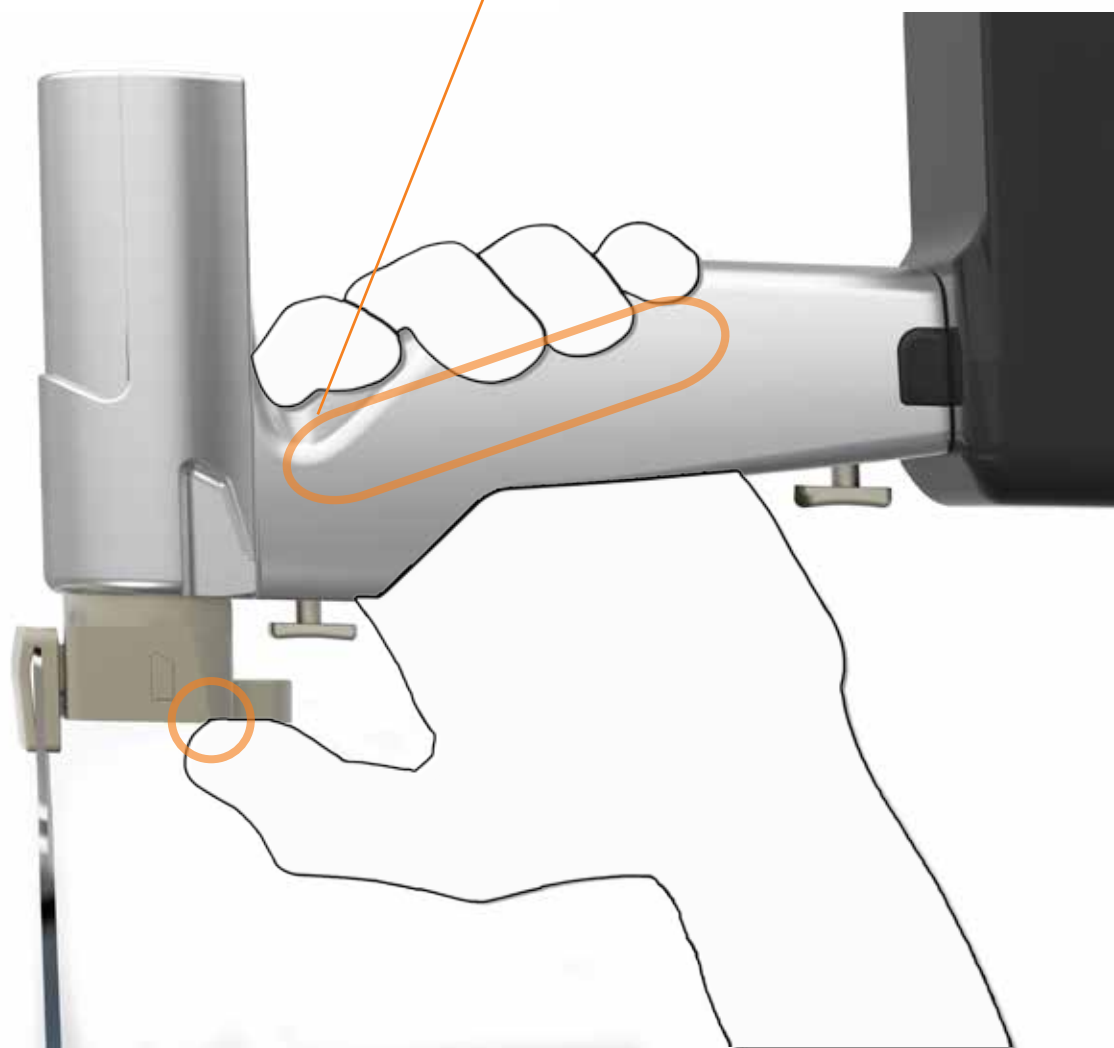
Created to eliminate awkward finger positioning, this saw allows for two triggers. One on top, and one located at the bottom, activated based on the current position of the saw.





Gyro located in battery allows for bottom trigger to become top trigger when inverted.

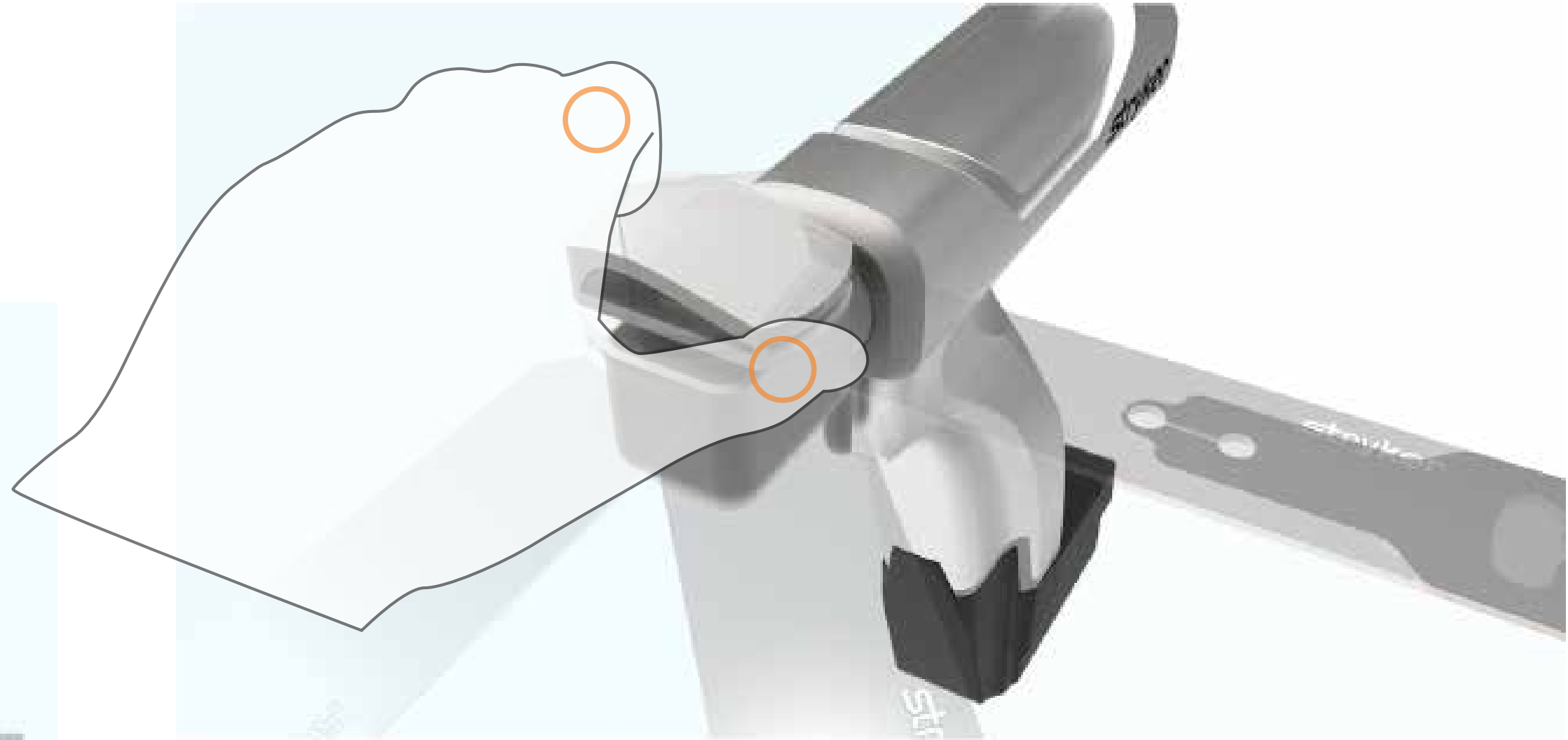
Rest forefinger on bottom of blade for a steady, even cut.



RETHINKING BLADE + BATTERY REMOVAL



- Battery removal: Battery removal based on pivot point rather than slide lock.



- Blade removal: Pull up on head and rotate to side to disengage blade.

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DRILL | SURGICAL REAMER

Features ergonomic form, two triggers, and an elongated battery. The battery allows for clearance for larger-hipped patients, and shifts weight distribution for a more comfortable, ergonomic fit.



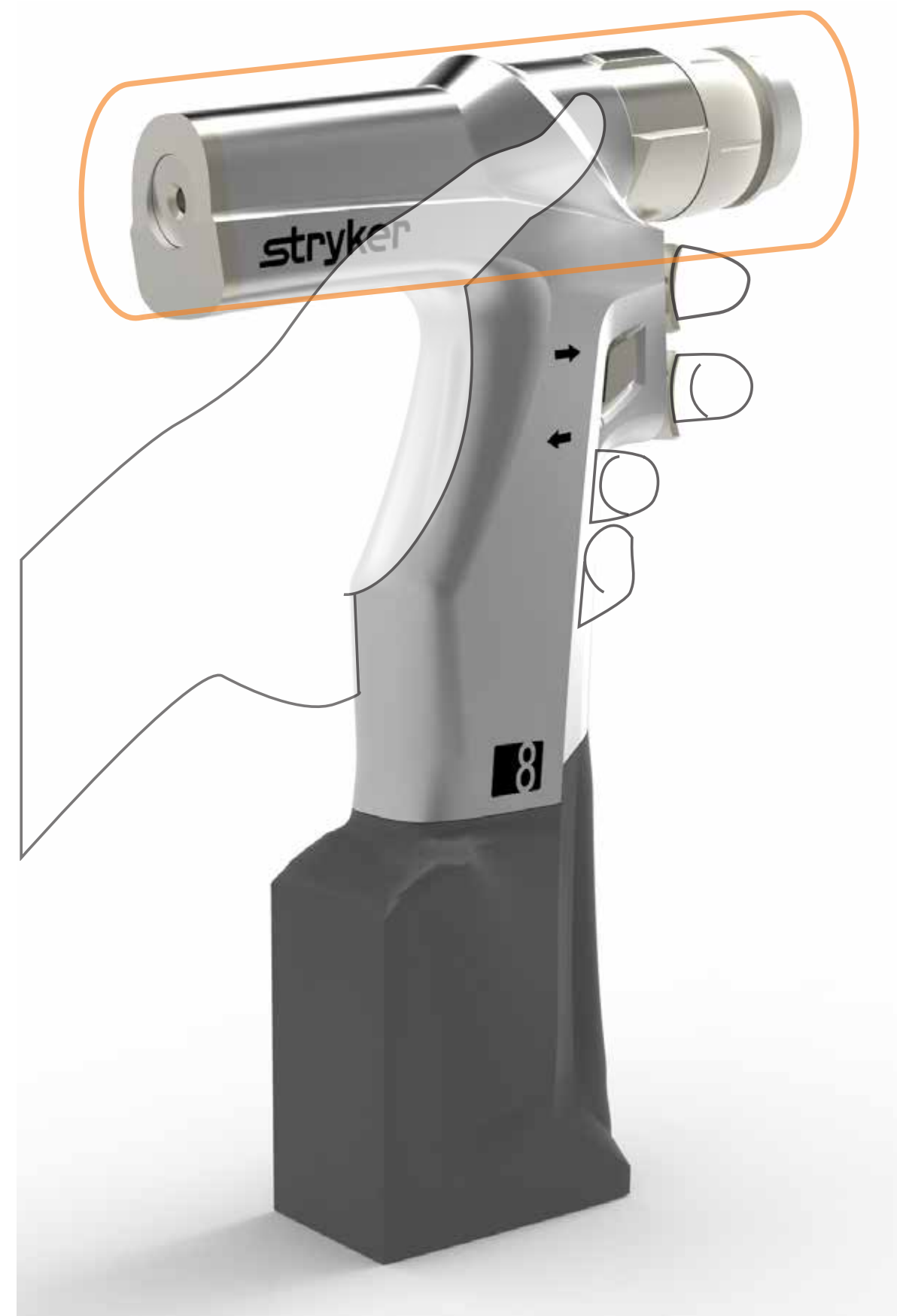


- Sweeping groove provides thumb guide ergonomic grip
- Rounded curve transitions smoothly providing a comfortable place for the web of the hand between the index and thumb to rest.
- Slight angled handle to enable more even weight balance due to ergonomic testing.
- Vertical battery provides smaller width which interferes less with drill and reaming work.





○ bump and groove provides strong grip for reaming



○ motor moved back to further balance out weight distribution above hand.

Personal | Intern

PROJECTS

Including mold-making ceramic projects, woodworking, Fisher-Price products and Room & Board products.



Personal Project

WOOD BOWL

Created out of Sapele on the lathe,
this piece was selected to show at SIE
(Student Independent Exhibition)



Sapele Wooden Bowl, 12 x 12"
SIE (Student Independent Exhibition) 2013-14

Personal Project

SPHERE SERIES

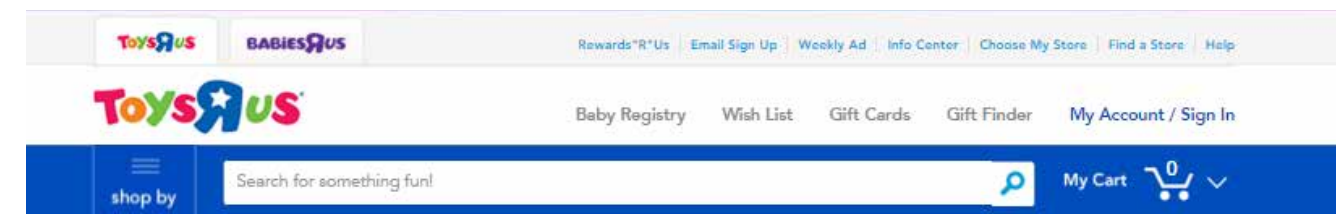
Created from hand-carved plaster forms,
these ceramic containers formed from
pouring slip into caste mold.



FISHER-PRICE 52

Fisher-Price Internship SPINNYOS

ON-MARKET | Completed during Sophomore
Fisher-Price Internship | Available at Toys R
Us, Amazon, and Target



Home | Baby, Toddler & Preschool Learning Toys | Toddler & Preschool Learning Toys | Preschool Play Sets, Figures & Animals | Play Sets

Fisher-Price Spinnyos Giant Yo-Iler Coaster

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By: Fisher-Price | MFG Age: 3 - 6 years | Read Product Description

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Details

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Internship Project

FREDDY HILL CHAIR

Designed and owned by Freddy Hill
Assisted in fabrication and completion





Grain Pendants

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WE'RE HERE TO HELP



1 STYLE (3 styles) [See product details](#)



2 WOOD: Hickory

Stocked



\$299.00 **In stock**

Grain Bell Pendant

Wood: Hickory

Qty 1 ▾

[Returns & Guarantee](#)

Grain Pendant Sets

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WE'RE HERE TO HELP



1 STYLE (4 styles) [See product details](#)



2 WOOD: Walnut [See material details](#)

Stocked



3 CEILING PLATE: Graphite [See material details](#)

Stocked



\$1,046.00 **In stock**

Grain Cone Pendants

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