

PDES 4702W

**The Final Presentation the Journey, and the Creation
of the Backpacking Electric Wildlife Fence.**



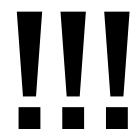
MEET KATHY AND AARON.

BEING “BEAR AWARE”

Anyone who spends time in bear country should know how to stay safe around them. There are a number of best practice one can do to stay safe, all of which Kathy and Aaron did. Other actions include:



Carry **bear spray** and know how to use it. Holster on the hip or chest for easy access.



Store food properly in either a bear barrel, scent proof bag, or hang food in a tree.



Make your **presence known** by calling out frequently, clapping, or talking loudly.



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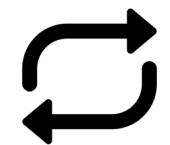
THE AFTERMATH.



Despite doing everything they could to prevent an encounter, Kathy and Aaron Huffman's remains were **found cached and partially eaten days later.**



5 bears thought to have been involved were mistakenly killed by park officials.



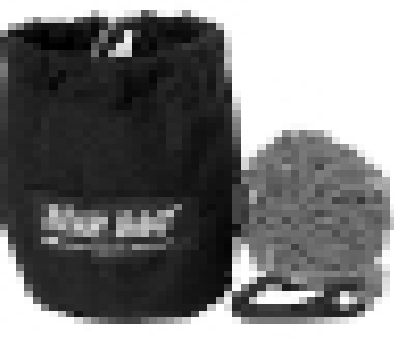

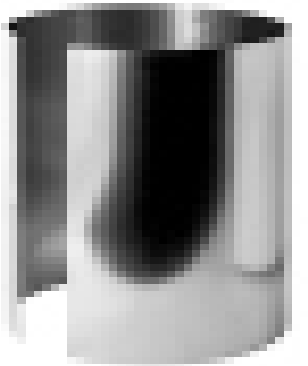




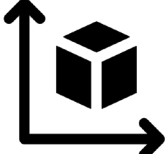



7 lives were lost and **0 changes made** to prevent this even from happening again.



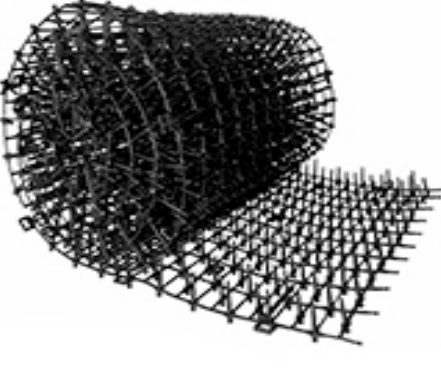








So, what's the problem...

THE MARKET BREAKDOWN



	Bear Vault	Scent Bag	Bear Bag	Bear Pack	Pack Liner	Bear Bell
						
	Prevention	Prevention	Prevention	Prevention	Prevention	Deterrent
	80.00	25.00	90.00	150.00	40.00	5.00
	Food storage	Hold scent	Hang stuff	Gear guard	Gear guard	Sound alert
	9x9x13	30x15x15	8x8x14	26x18x14	10x24x10	4x2x1
	2.60	0.40	0.50	4.40	0.70	0.40

Units: US dollars, inches, and pounds.

	Bleech	Speaker	Spike mat	Elec. fence	Trail cam	Trip wire
						
	Deterrent	Deterrent	Protection	Protection	Deterrent	Protection
	N/A	N/A	N/A	250.00	N/A	N/A
	Combo	Sound alert	Poke bear	Shock bear	Combo	Combo
	N/A	N/A	N/A	26x18x14	N/A	N/A
	N/A	N/A	N/A	8.30	N/A	N/A

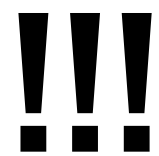
Units: US dollars, inches, and pounds.

IDENTIFYING A PROBLEM

The best way to avoid attacks is to avoid bears yet there are no products that deter dangerous encounters once a bear is alerted, curious, and decides to engage.



Bear spray is the best active defense product but does not prevent encounters.



The market lacks physical products that perform the actions of the **best practices**.



If not done correctly the best practices are useless. With **no deterrents to discourage an encounter** the likelihood of a dangerous or deadly attack increases.

...People need a product that **deescalate**
Potentially dangerous situations with bears.

...With a majority of attacks happening at night
or while distracted, people need a product
that **watches their back** when they can't.

...People need a product that can deliver pun-
ishments to **condition bears to avoid humans**
and from prodding further.

HOW MIGHT WE.



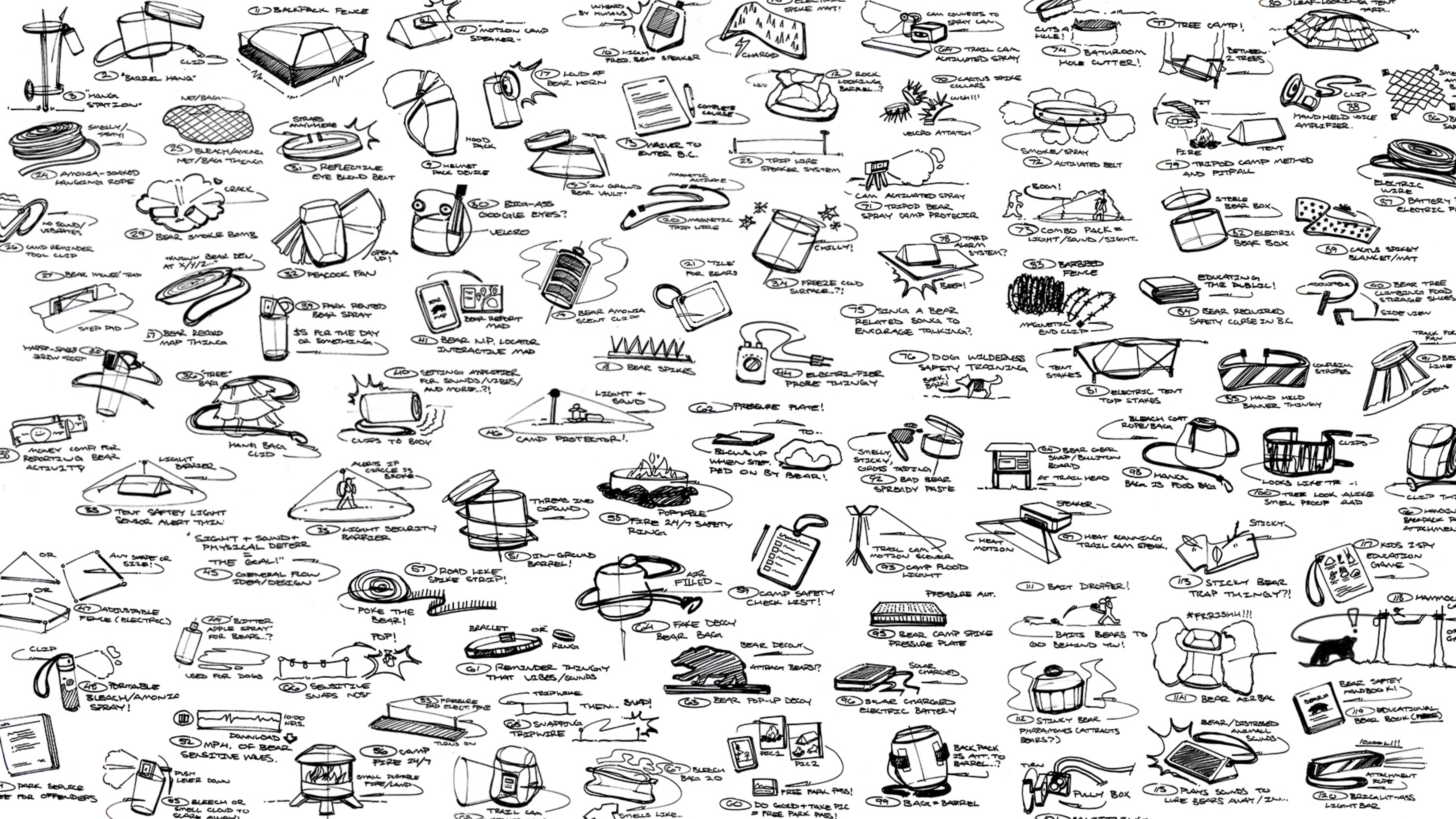
Give confidence to those hiking in bear country.



Protect vulnerable campers when they are asleep or distracted.



Discourage and condition curious bears from prodding once intrigued.



S C A M P E R

43 TRAIL BEACON
LIGHTS UP!

1 "SPIKE MATS"
TENT
SPIKE MATS

21 "TILE" FOR BEARS
GPS TRACKER

22 TRAIL CAM FLASH DEVICE

85 BARBED FENCE
MAGNETIC END CLIP

STEP PAD

53 PRESSURE PAD ELECT. FENCE
TURNS ON

75 ELECTRIC SPIKE MAT!
CHARGED

BLEACH COAT ROPE/BAG

98 HANG BAG IS FOOD BAG

CAN CONNECTS TO SPRAY CAN
67 TRAIL CAM ACTIVATED SPRAY

23 BEAR-SPRAY TRIP WIRE
CAN IN USE! AT NIGHT!

NET/BAG

25 BLEACH/AMMONIA NET/BAG THING

MAGNETIC ACTIVATE
20 MAGNETIC TRIP WIRE

TAPER
2 IN GROUND BEAR VAULT

OR
OR
ANY SHAPE OR SIZE!
47 ADJUSTABLE FENCE (ELECTRIC)

STEEL BEAR BOX
62 ELECTRIC BEAR BOX

116 HAMMOCK CAMP!
OFF GROUND

BEAR REPORT MAP

41 BEAR N.P. LOCATOR INTERACTIVE MAP

SPEAKER
HEAT MOTION
87 HEAT SENSITIVE TRAIL CAM SPEAK.

KEY CHAIN
8 "SMALL BEAR SPRAY"

30 "TREE" BAG
HANG BAG CLIP

BACKPACK IS ATT. TO BARREL...?
99 BAG = BARREL

PIT
FIRE
TENT
79 TRIPOD CAMP METHOD AND PITFALL

ELECTRIC!
14 ELECTRIC BOX MATT
CONTROL

88 CLIP
HAND HELD VOICE AMPLIFIER.
*FRISHH!!!

114 BEAR AIR BAG

LOOKS LIKE TR -1
100 TREE LOOK ALIKE SMELL PROOF RAG

58 FIRE 24/7 SAFETY RING!
PORTABLE

PIC 1
PIC 2
FREE PARK PASS!
60 DO GUESSED + TAKE PIC = FREE PARK PASS!

ELECTRIC WIRE
87 BATTERY POW. ELECTRIC FENCE

18 BEAR SPIKES
CONFUSING STRIPES

85 HAND HELD BANNER THING

BRACKET OR RING

61 REMINDER THINGY THAT VIBES/SOUNDS

29 BEAR SMOKE BOMB

111 BAIT DROPPER!
BAITS BEARS TO GO BEHIND YOU!

112 STINKY BEAR PHARMACINES (ATTRACTS BEARS?)

BEAR/DISTRESS ANIMAL SOUNDS
15 PLAYS SOUNDS TO LURE BEARS AWAY/IN...

70 DOG WILDERNESS SAFETY TRAINING
BACK! BACK!

BEAR DECAY
ATTACK BEARS?
65 BEAR POP-UP DECAY

DOWN SELECTING.



Does the product make the users life better? **Does it make them feel safe?**



Is the **weight and usefulness of the product justifiable** to backpackers?



Is the concept **novel and innovative?** Does it do something other products can't?

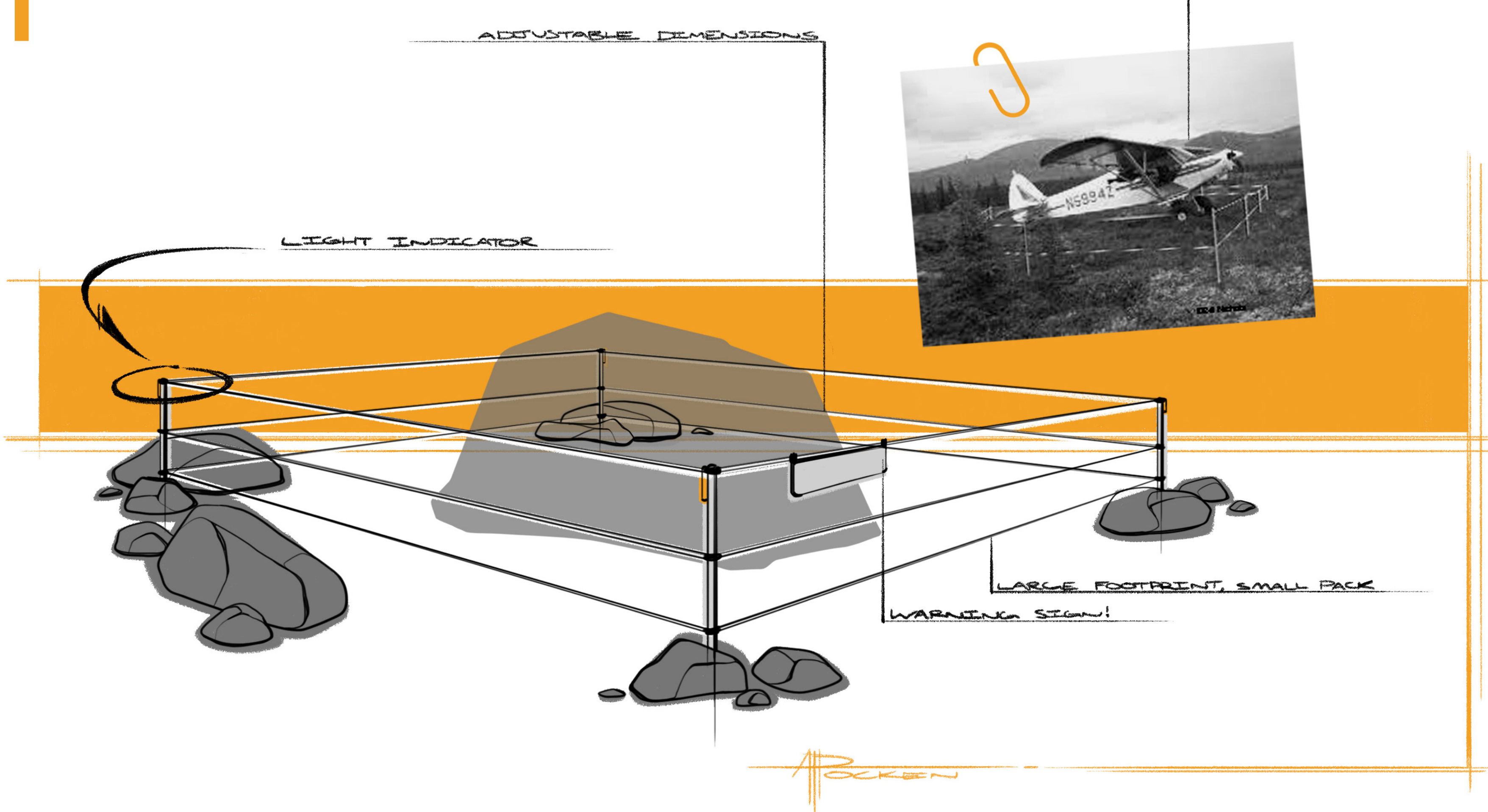


Does it effectively **deter and condition bears?** Is it safe for them?

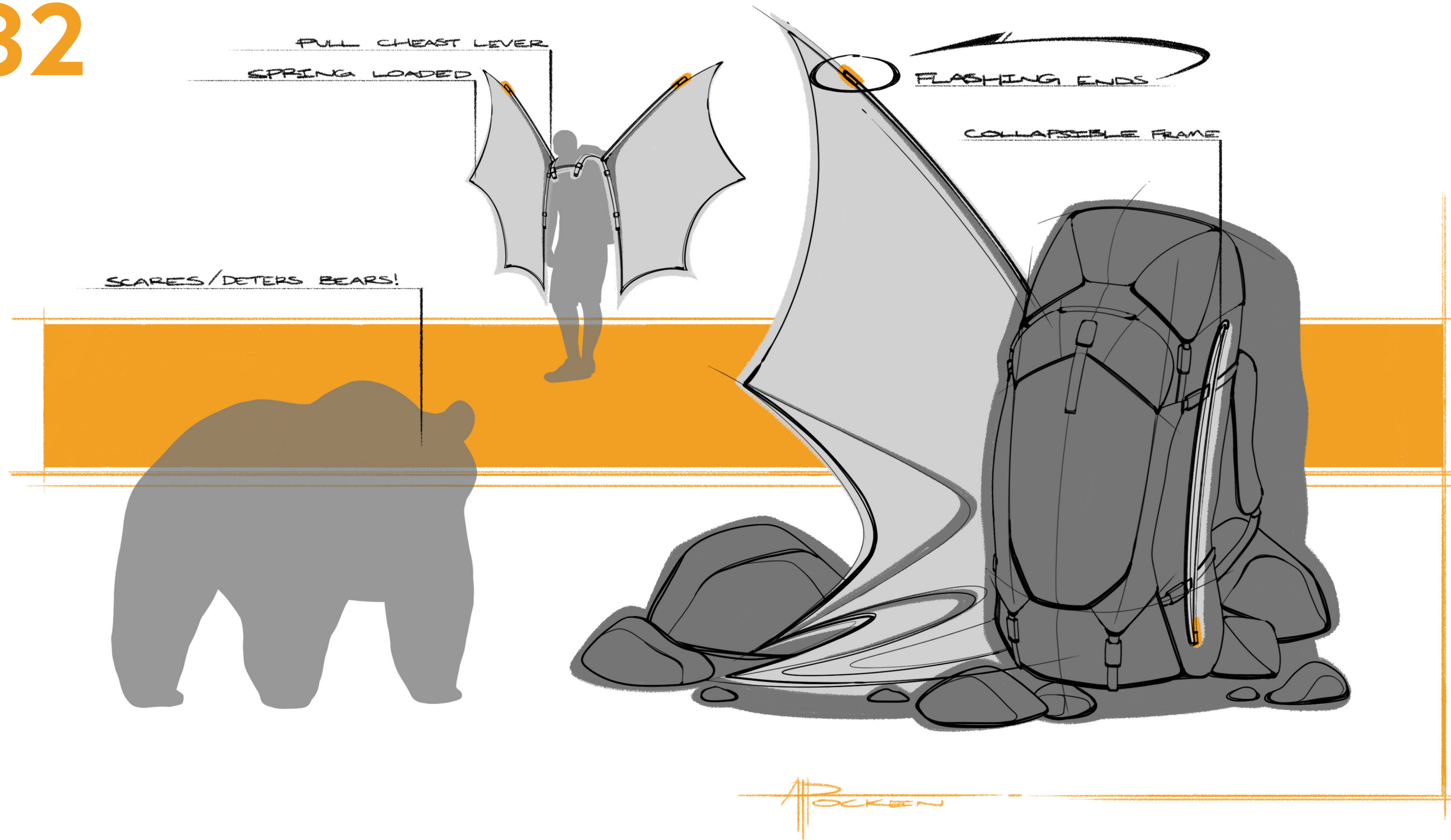
ALASKA DNR USE OF FENCES

ADJUSTABLE DIMENSIONS

LIGHT INDICATOR



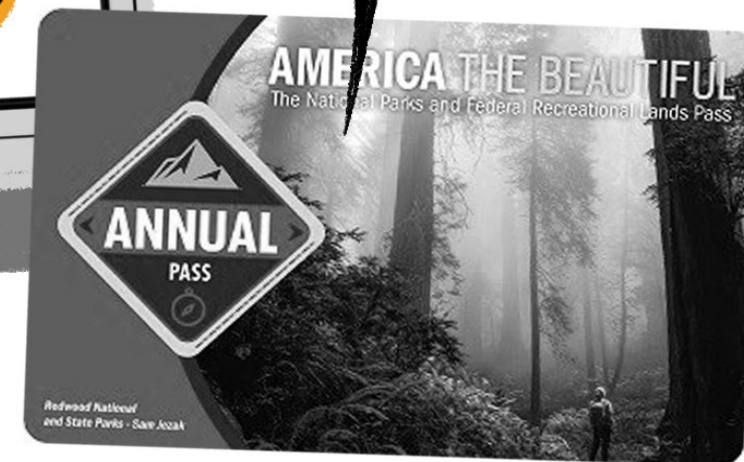
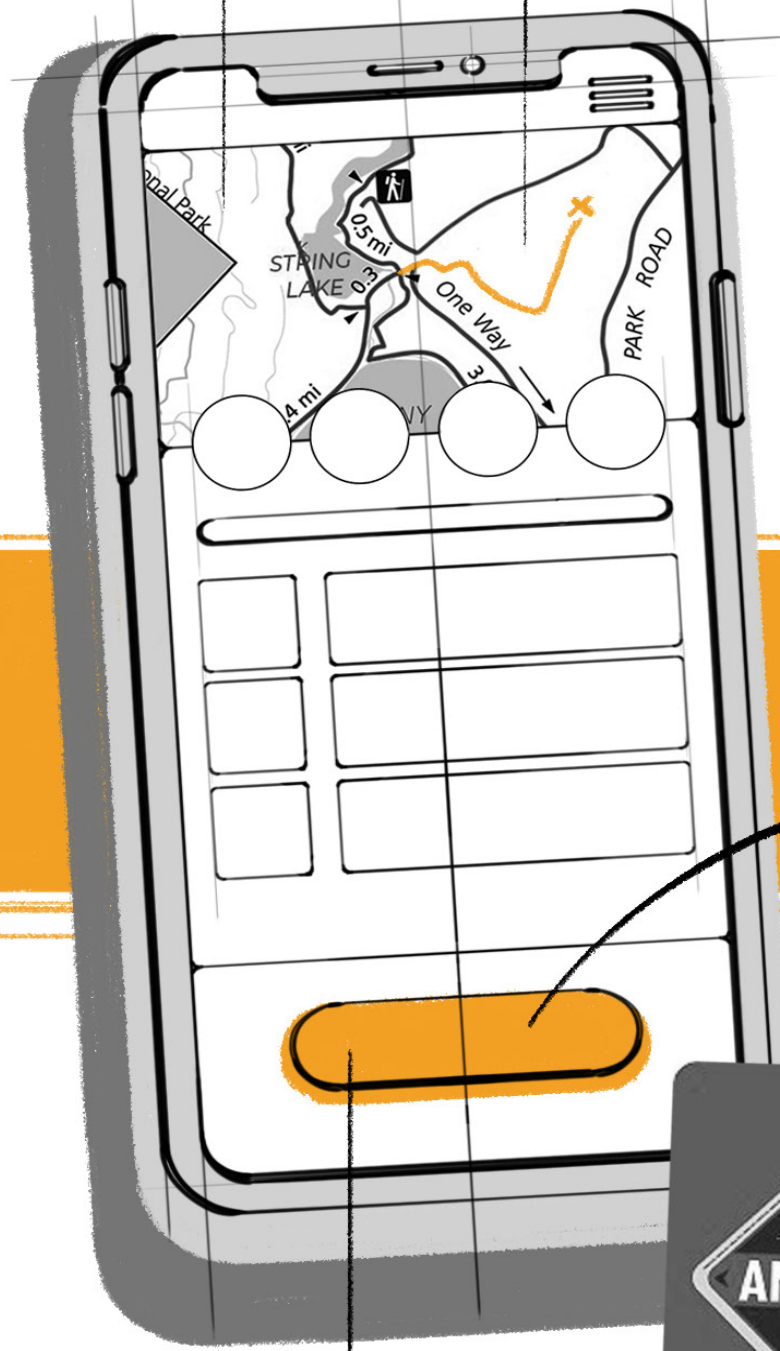
32



NO WIFI, ALL PREDOWNLOADED!

MAP, PROGRESS BAR, REMINDERS...

DOING THE "BEST PRACTICES"

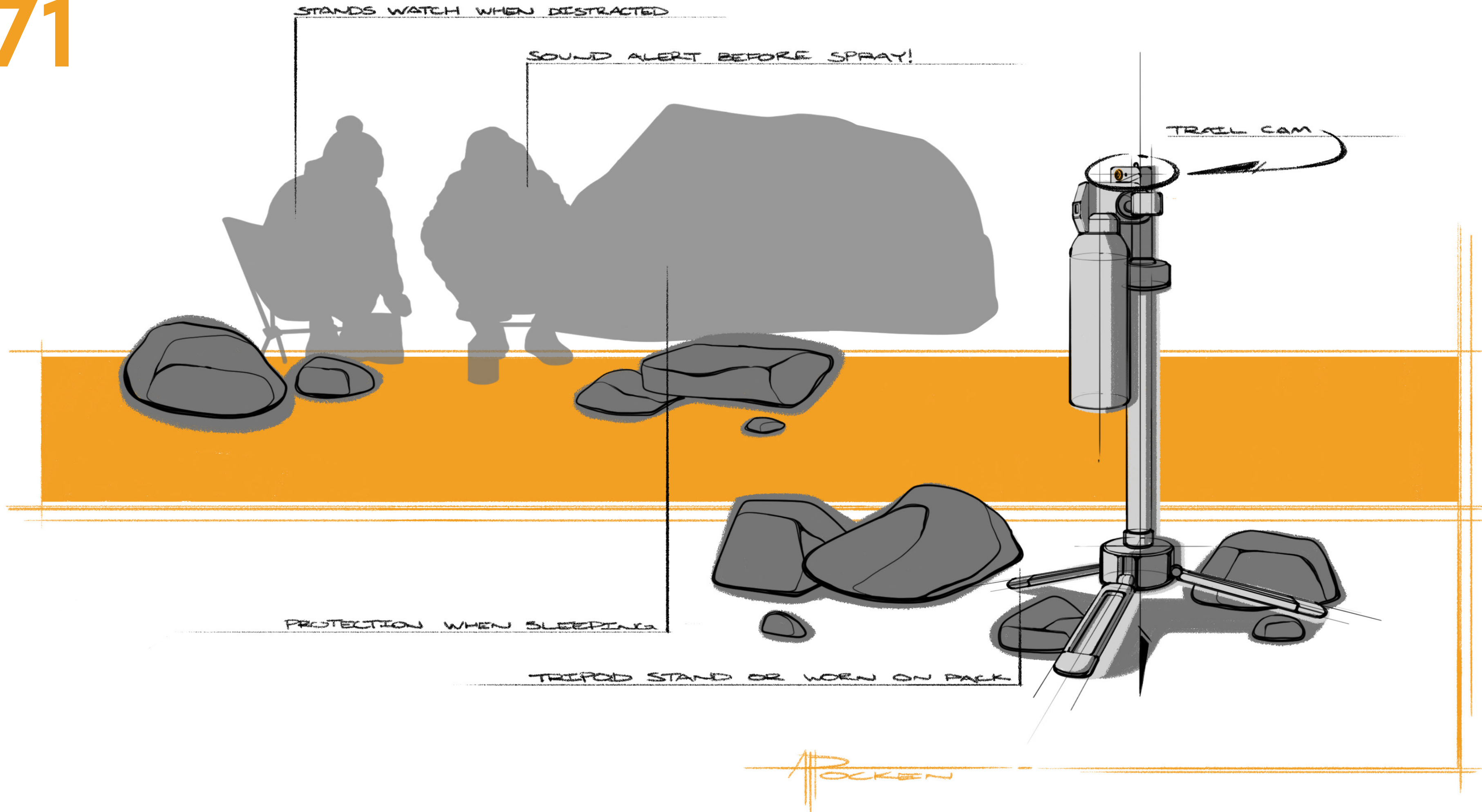


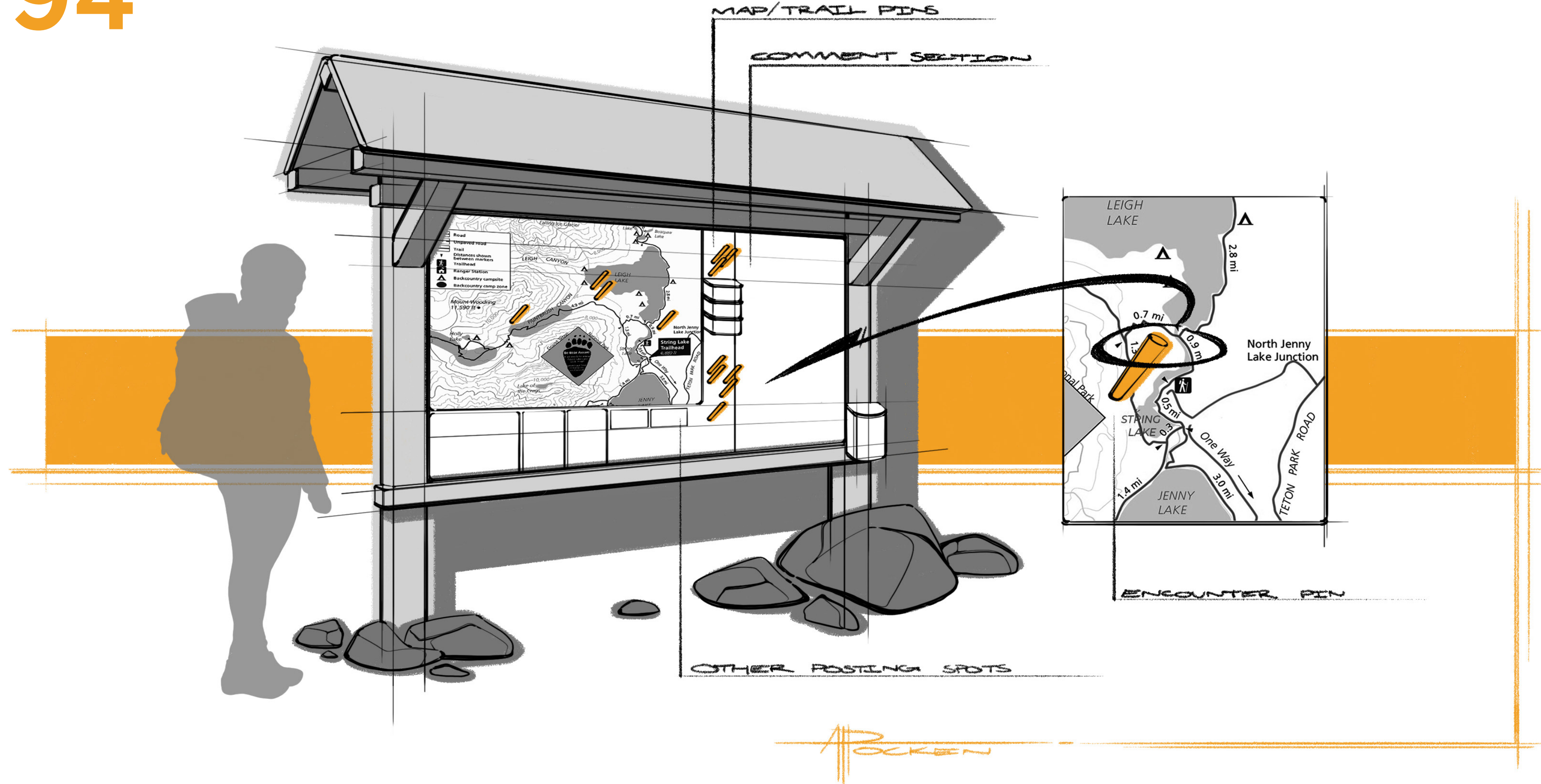
CLAIM YOUR FREE PASS!

TAKE PHOTOS, EARN REWARDS!

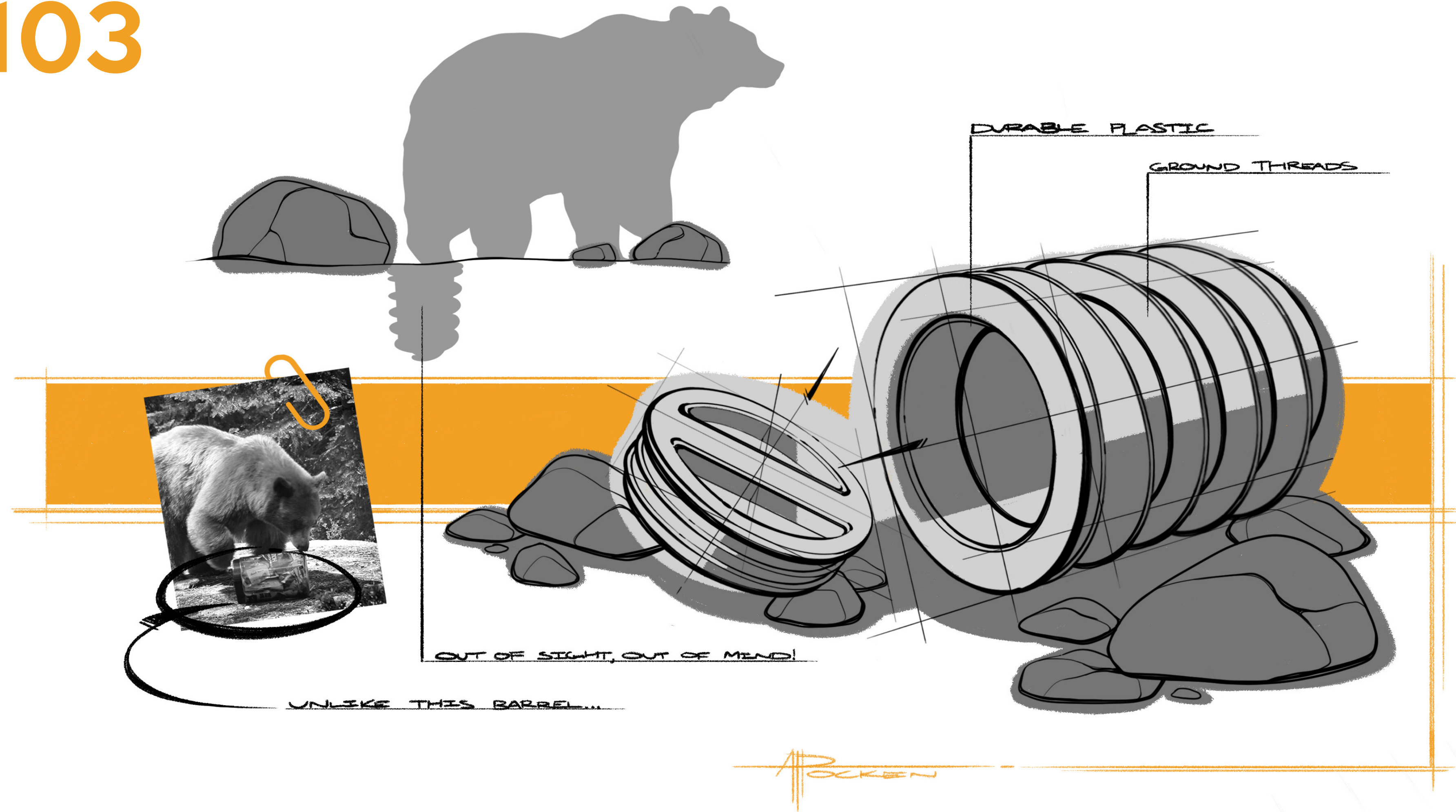









71





103



	11	32	59	71	94	103
 Protection		Deterrent	Prevention	Protection	Prevention	Deterrent
 \$	-	+	+	o	o	o
 	o	+	o	+	+	o
 !	+	+	-	+	o	+
 	+	o	+	+	-	o
	1	2	1	3	0	1

“+” Better rating icon, “-” worse rating icon, “o” same rating icon when compared to a food hanging bag.



THE USERS.



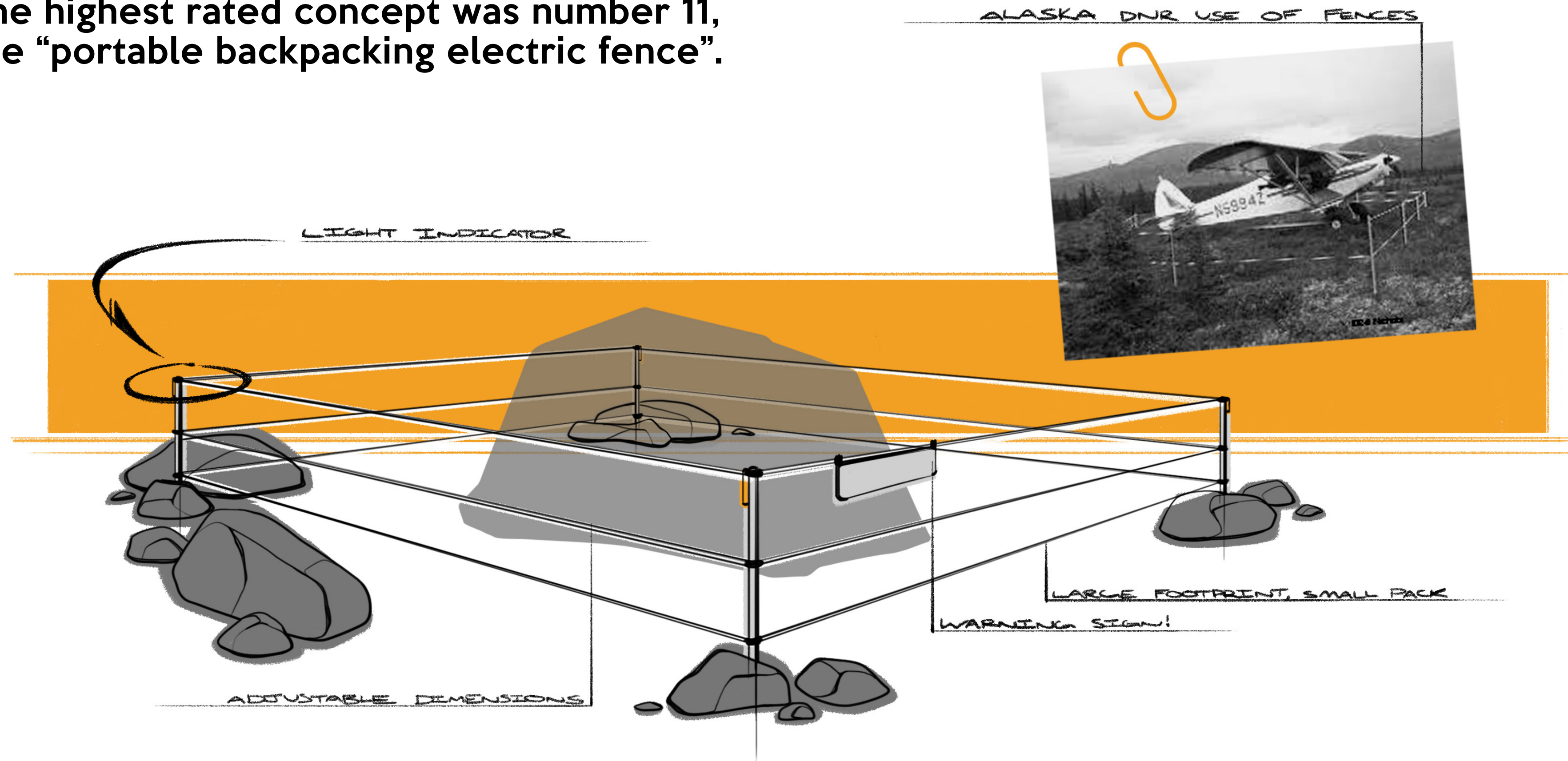
THESE GUYS.

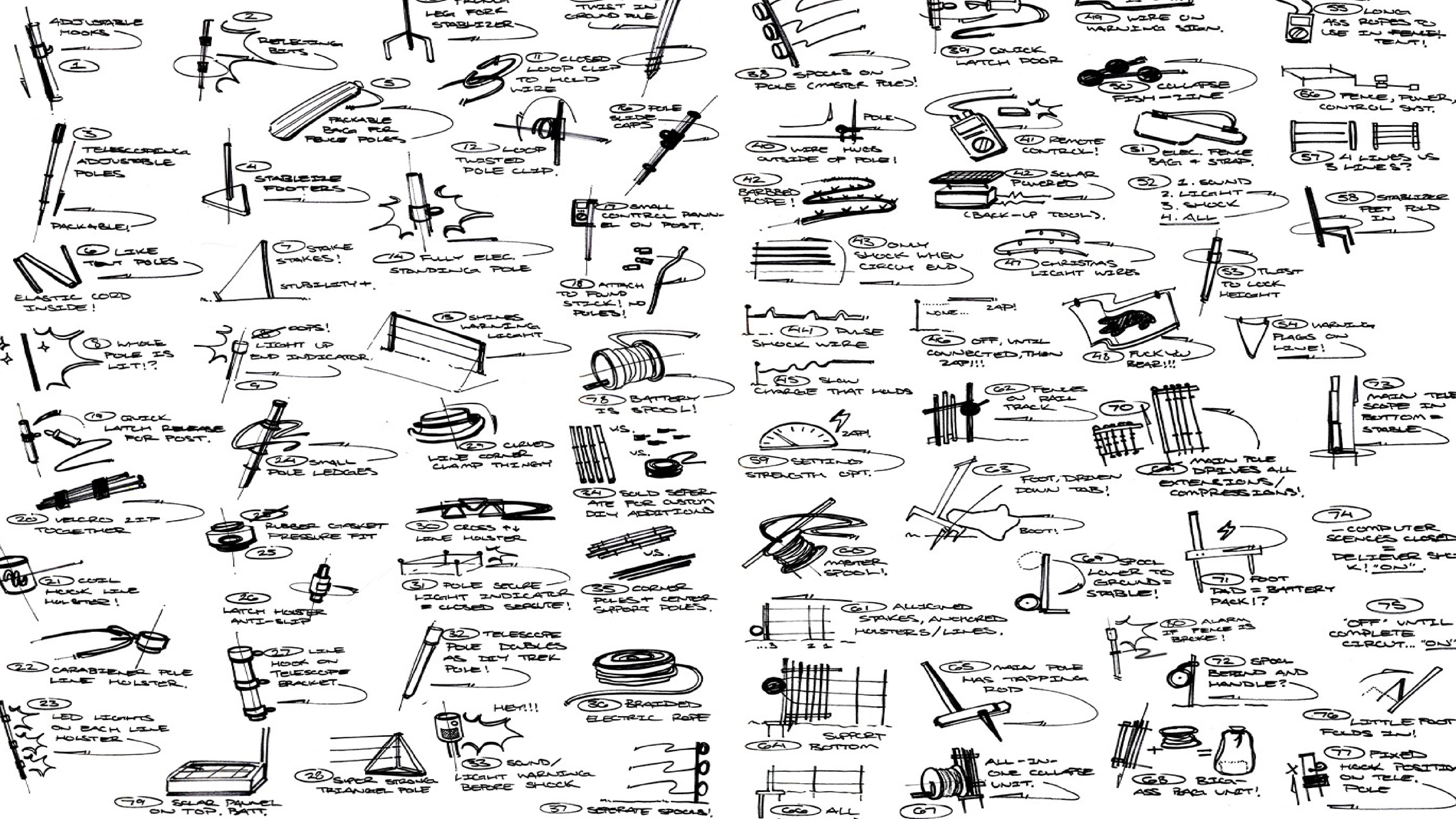


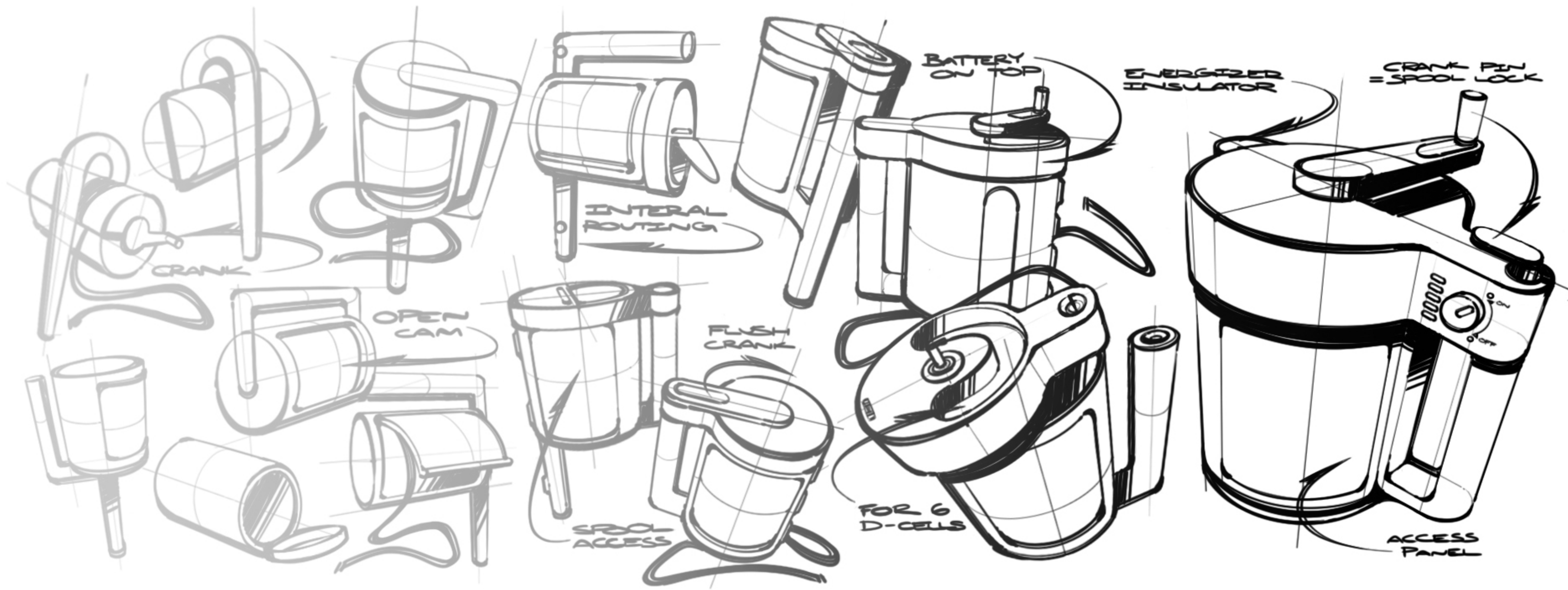
AND THESE GUYS TOO.

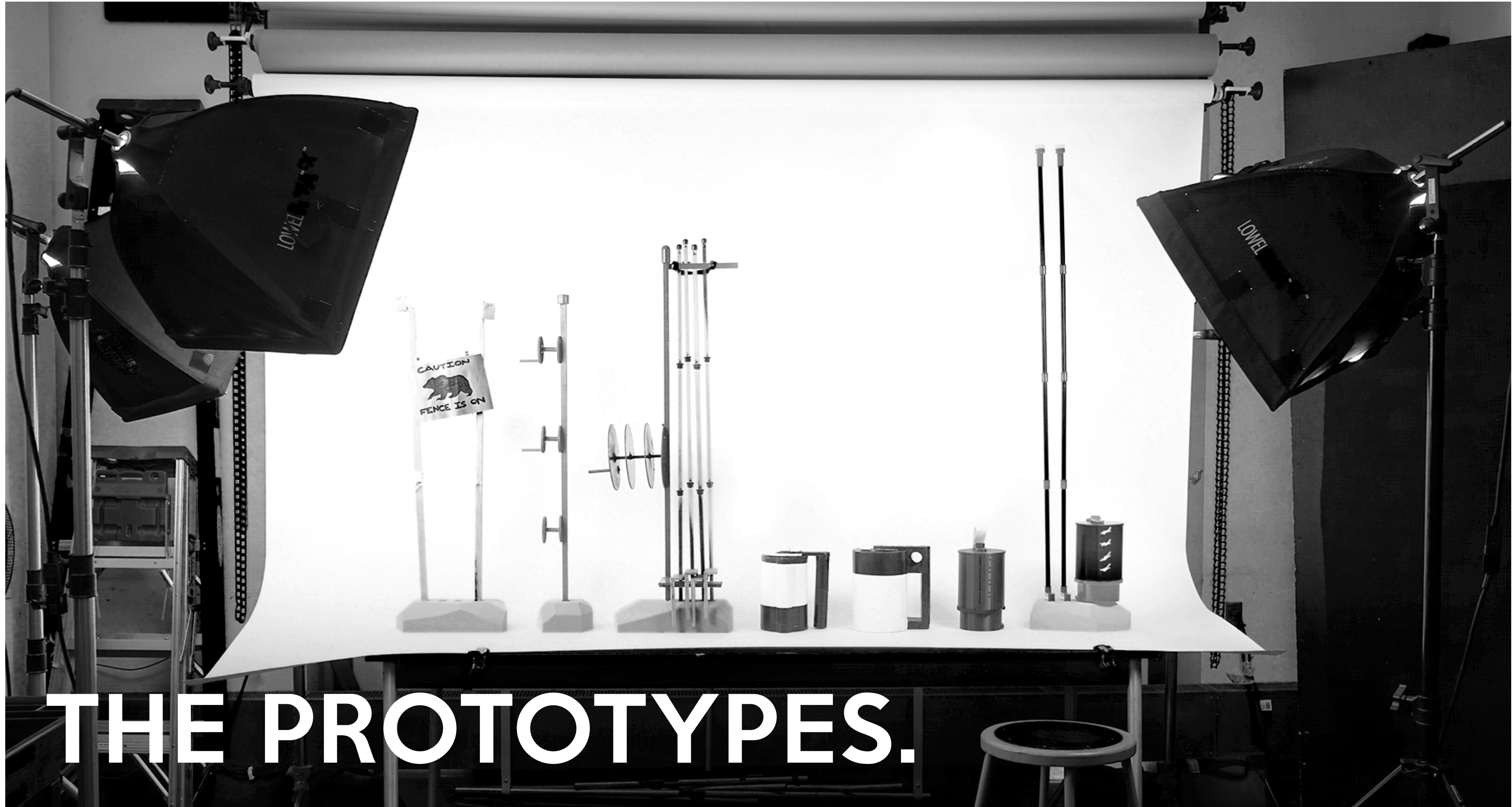
TOP CONCEPT.

The highest rated concept was number 11, the “portable backpacking electric fence”.









THE PROTOTYPES.



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THE SOLUTION.

Let's take a hike! I'll explain along the way.



...Sam wants a product that **deescalate**
Potentially dangerous situations with bears.

...With a majority of attacks happening at
night or while distracted, Brit wants a product
that **watches her back when she can't**.

...They both want a product that can deliv-
er **punishments to condition bears** to avoid
themselves.

...Brit would **feel safer** if she had a second
line of prevention and protection.



BEAR SHIELD

Protect. Prevent. Persist.



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8x3.60



7x4



9x5





THE “ELECTRIC” PART

- Powered by 6 c-cell reusable batteries
- Joule output of 0.20 per pulse
- Electric pulse rate of 0.50 seconds
- 380 hour battery life
- 46,000 mAh total battery capacity
- 14x0.50” Galvanized grounding rod
- Built in LED volt and battery meter



Folding aluminum pole

HDPE foot anchor

HDPE Insulated anchor

LED CR Battery holder

Acrylic LED diffuser



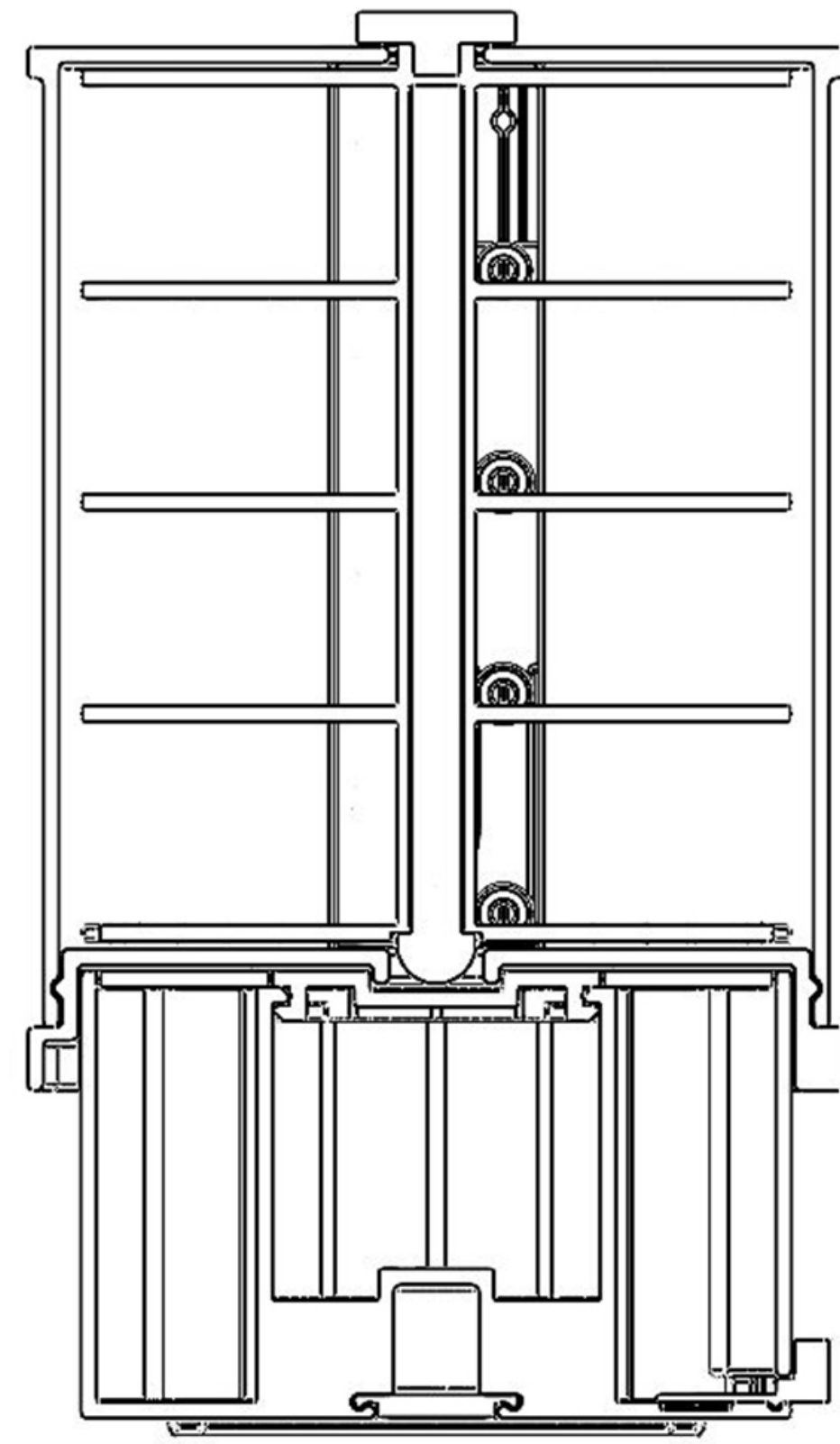
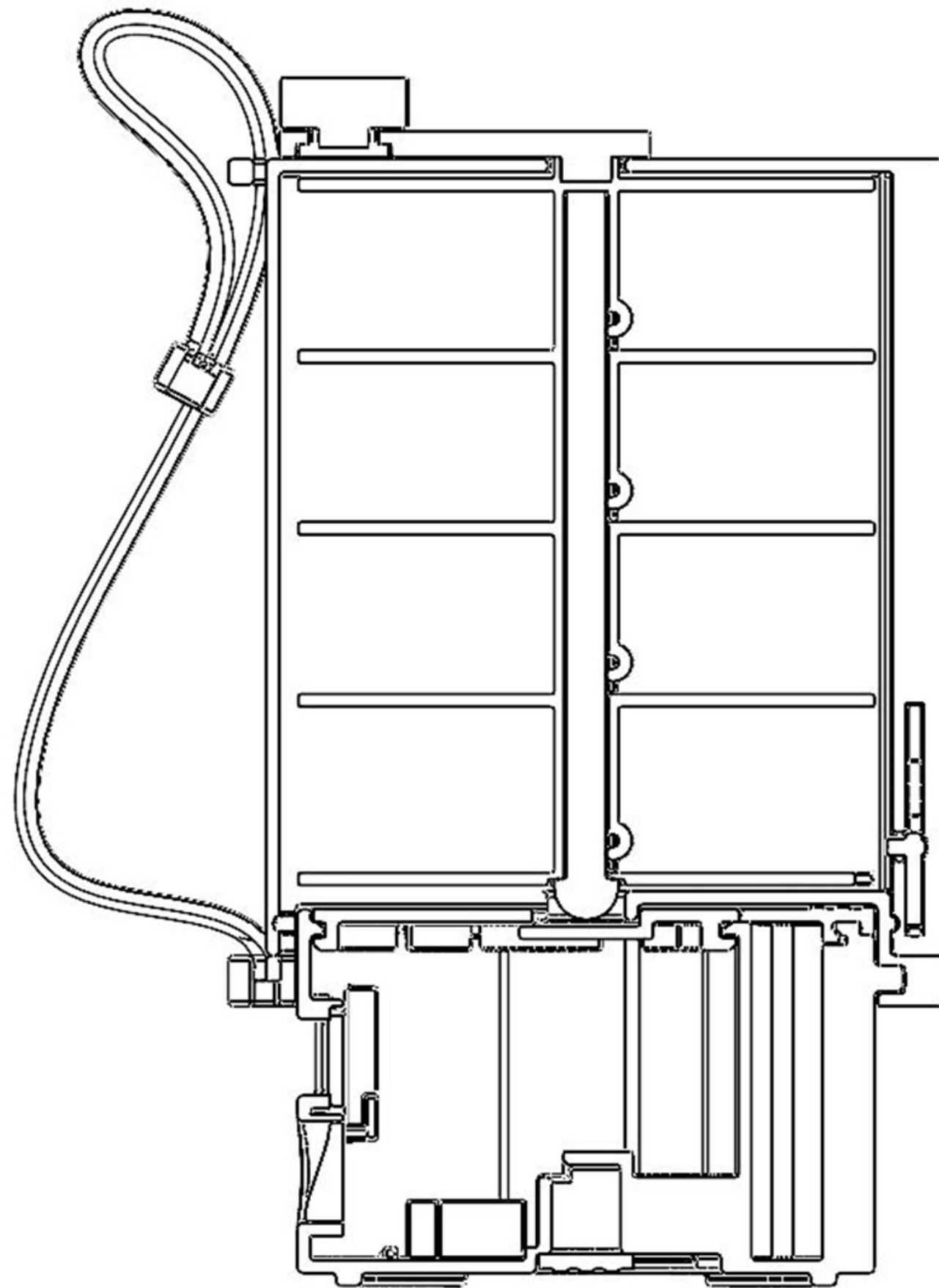
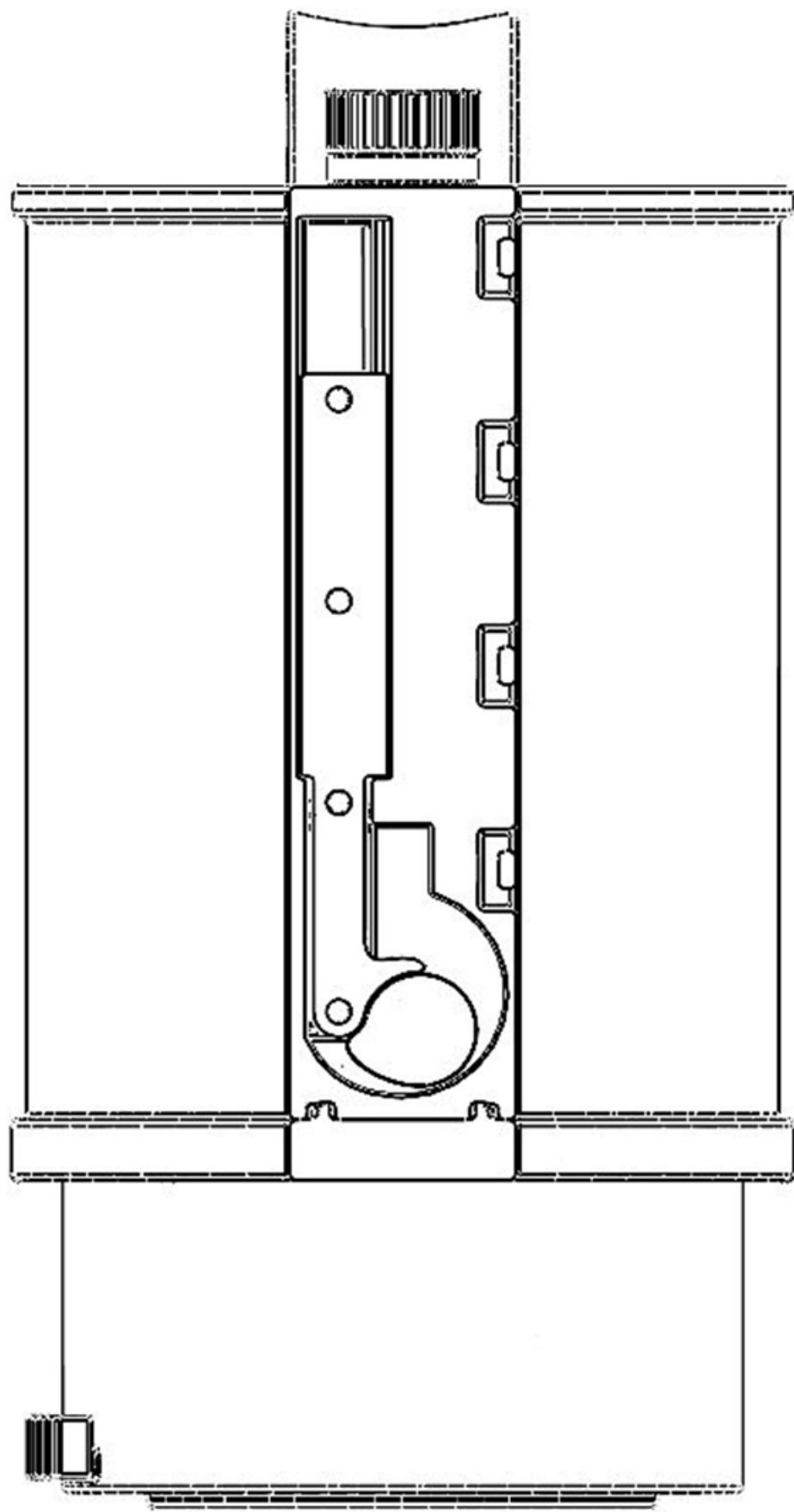
Collapsible nylon webbing

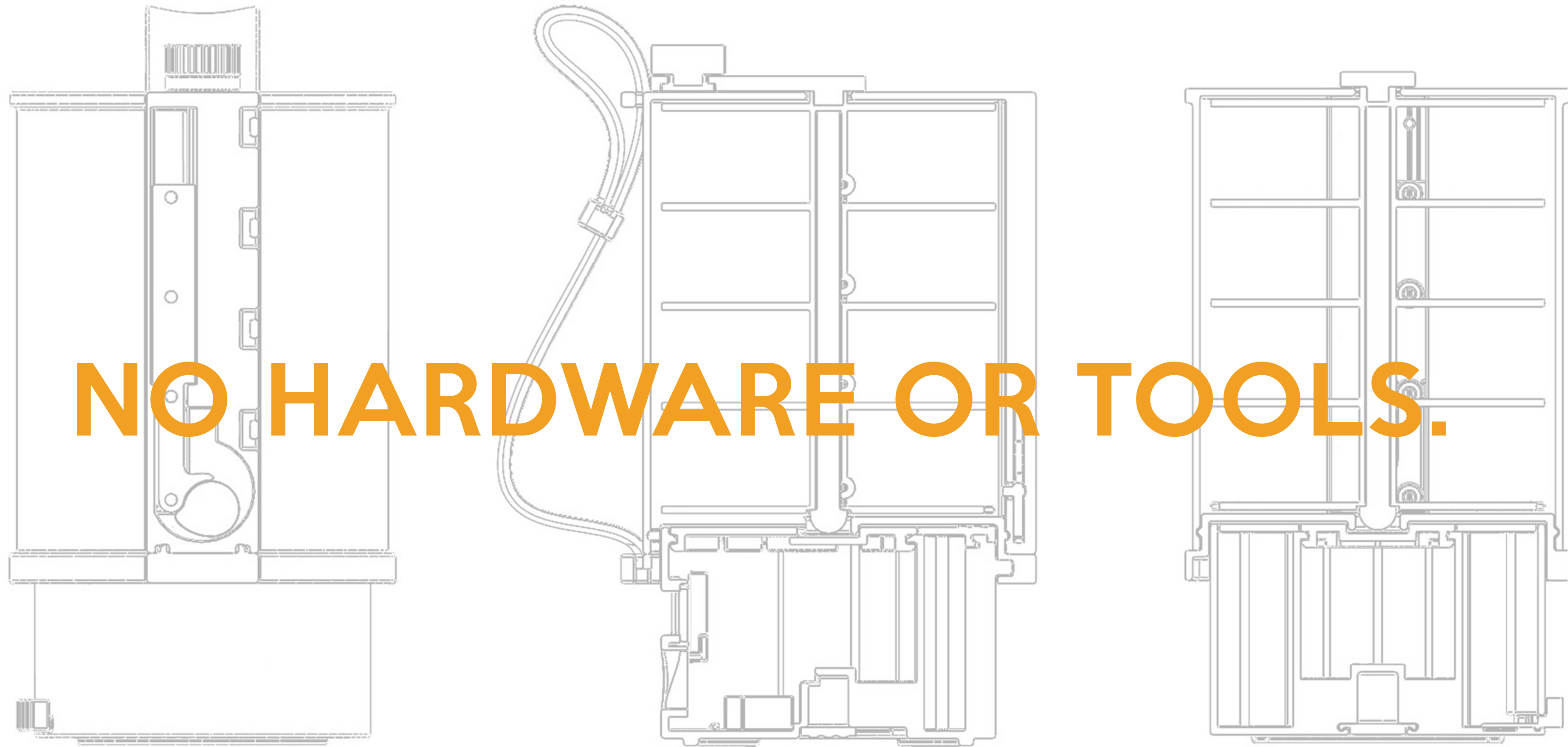
Recycled tritan plastic

Voltage and battery meter

Toggle power switch

Battery circuit break



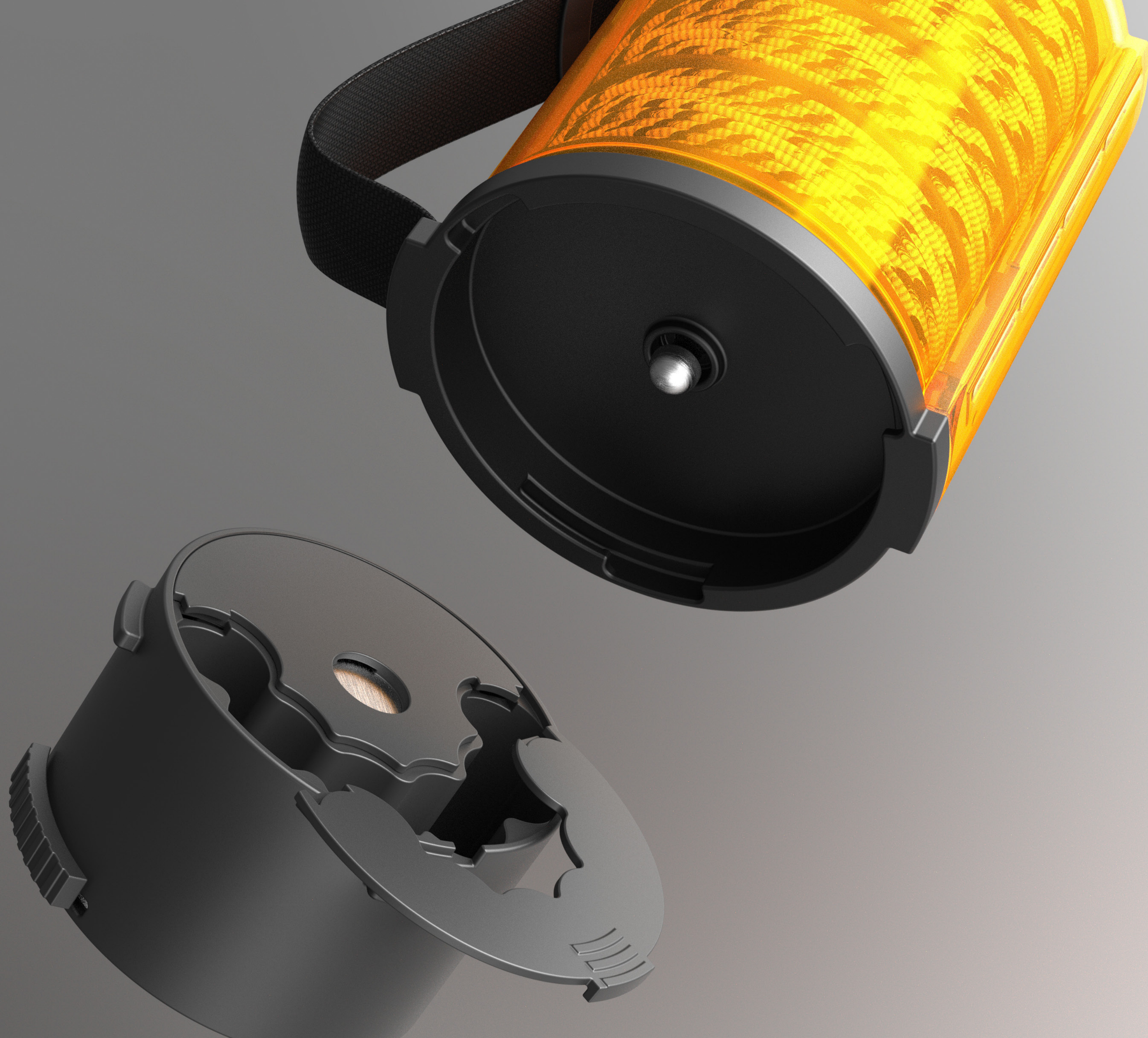


NO HARDWARE OR TOOLS.

MATERIAL CONSIDERATIONS

Following the most recent round of user testing, many were interested in a clear spool housing. Tritan plastic, known for its versatility, would be the perfect choice of material.





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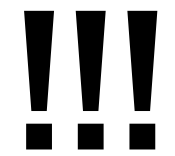
USER FEEDBACK.



78% of users said the fence would make them more **comfortable and feel safer.**



73% of users said the product would be **useful and justified its weight.**



98% of users thought the fence was **novel and innovative.**



78% of users would purchase the fence to **deter and condition bears.**

A total of 43 backpackers were surveyed and their data used to generate the above statements.

	UDAP Fence	Count. Assault.	Bearwatch	Bear Shock	BearShield
					
	6x8x26	11x6x46	11x9x3	10x7x48	9x5x24
	234.99	299.99	259.99	379.99	179.99
	4-8 Mins	4-6 Mins	5-7 Mins	4-6 Mins	2-4 Mins
	24 Parts	17 Parts	34 Parts	14 Parts	7 Parts
	3.70	10.0	3.18	9.50	3.15

Units: US dollars, feet, and pounds.

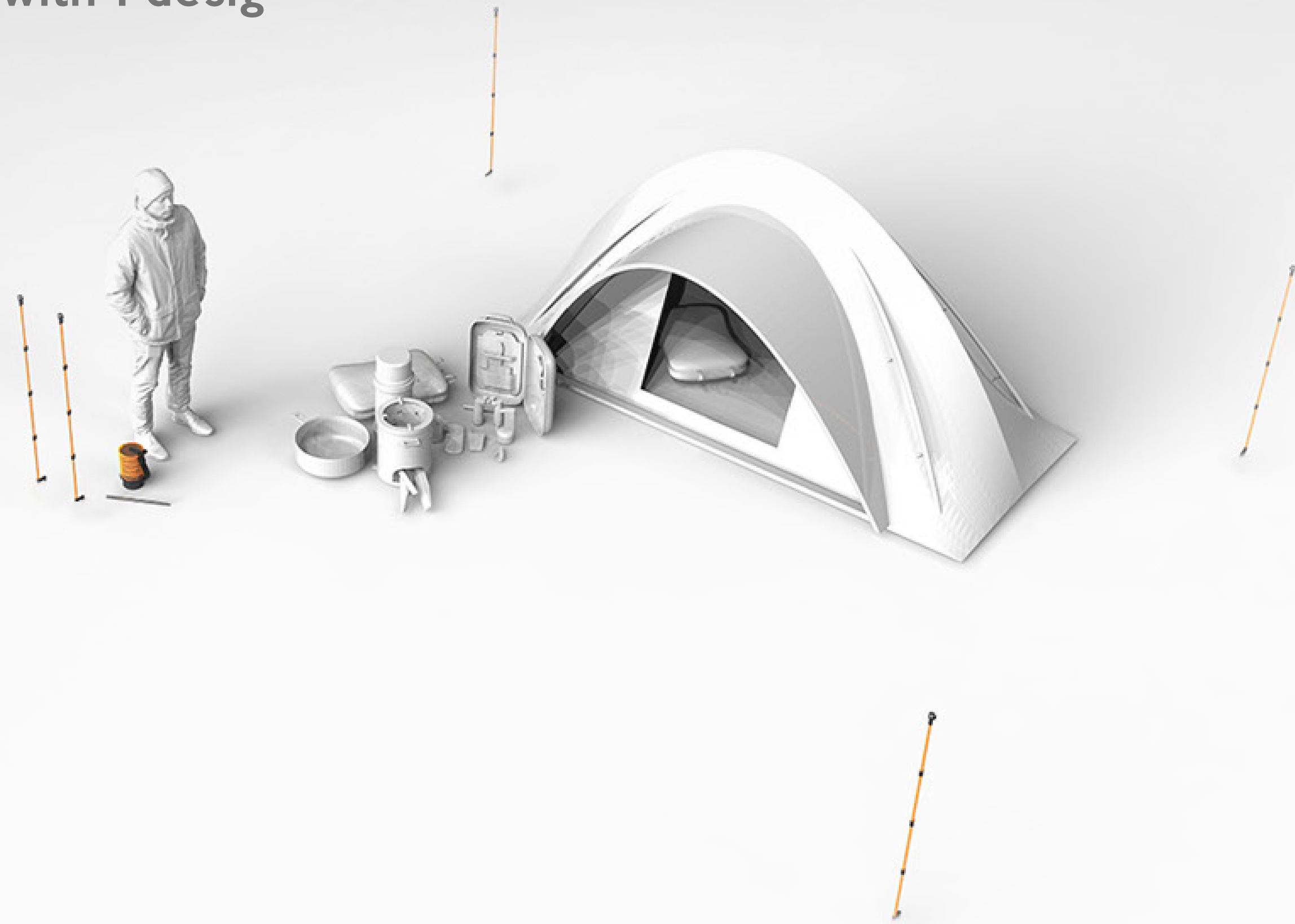
SETTING UP.

It's getting late. Let's get ready for bed.



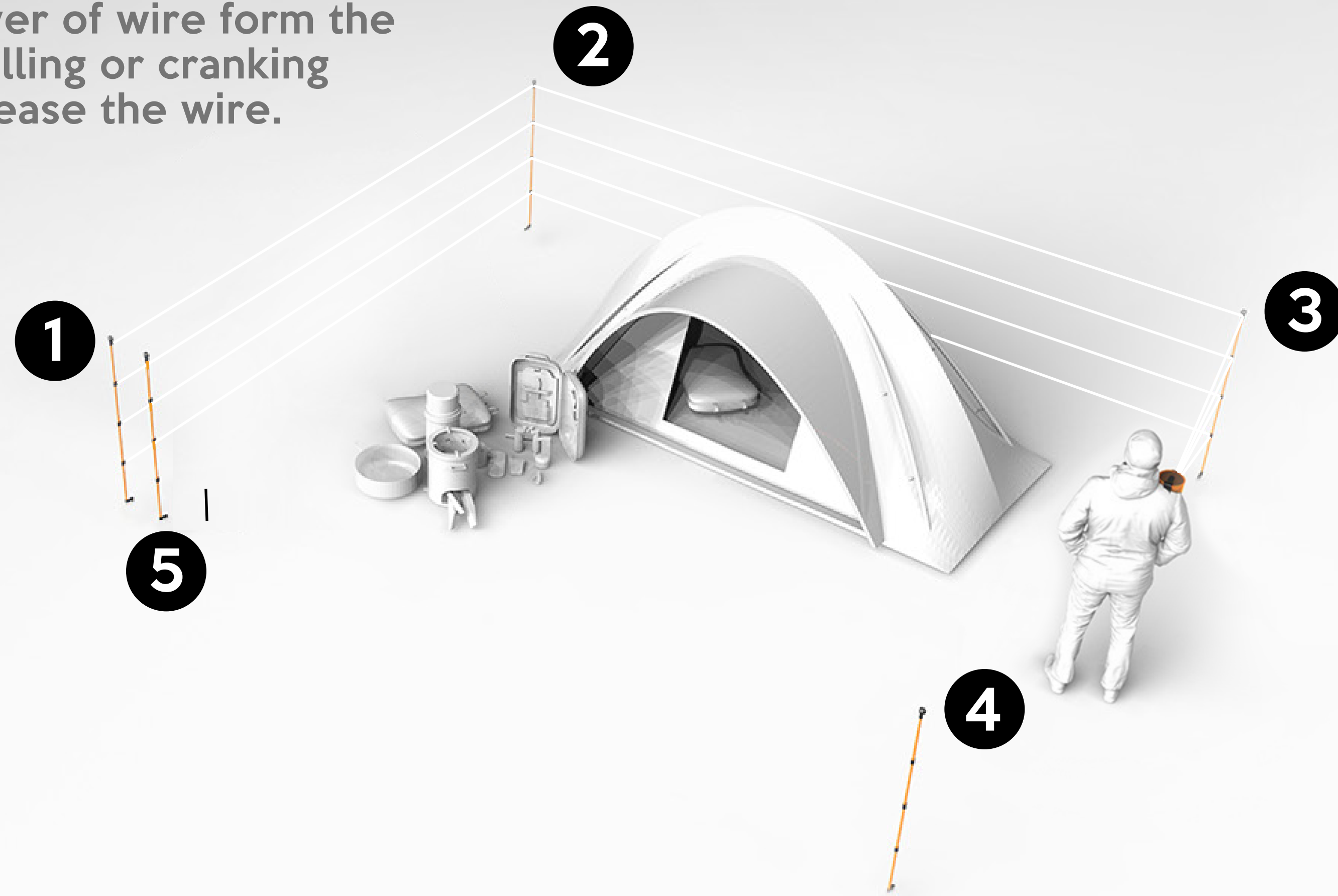
1 BUILD THE PERIMETER

Completely customizable, the perimeter can safely protect a 30x30 square foot area. Start by setting up the 4 poles with 1 designated to be the fence's door.



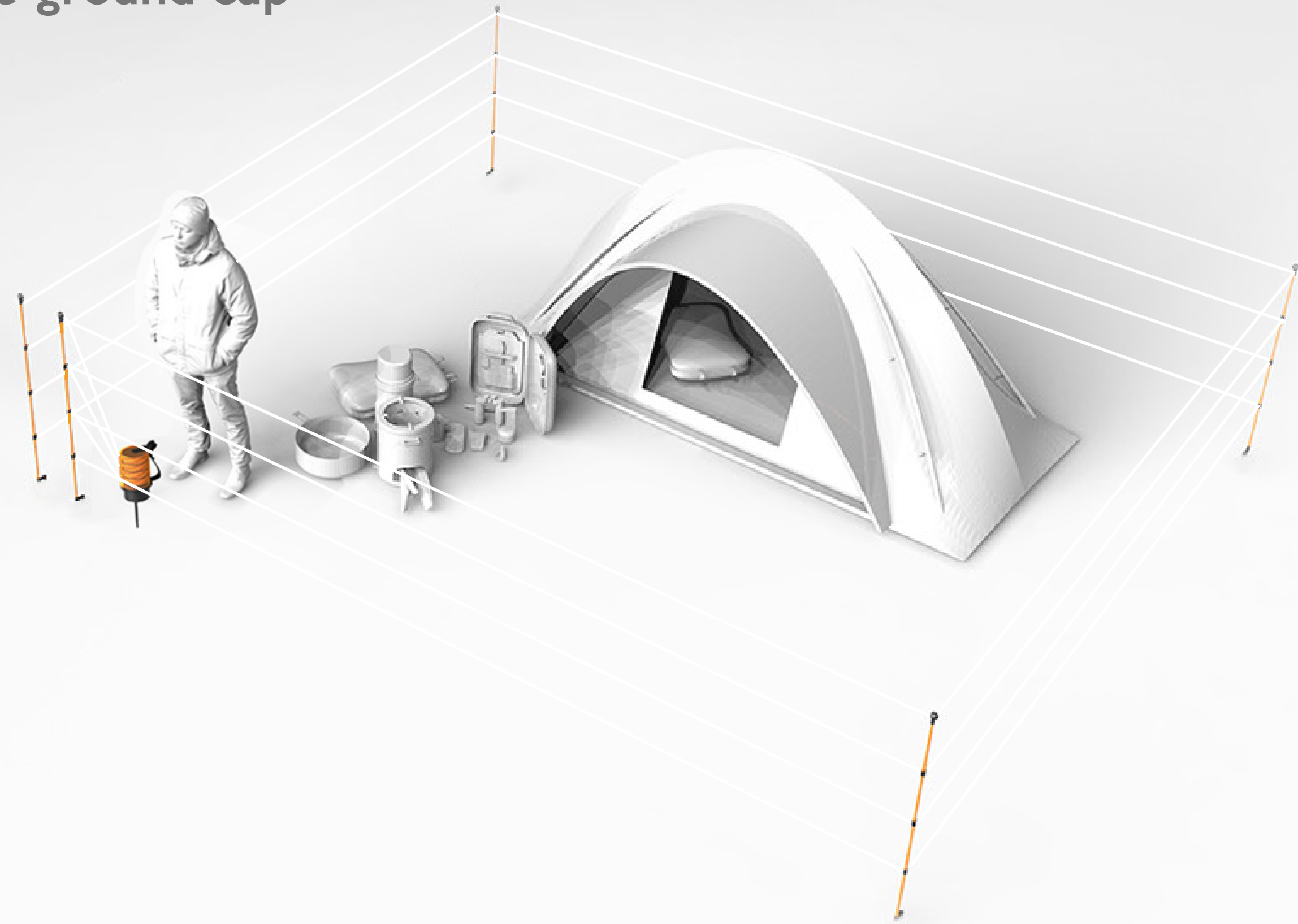
2 STRING UP THE WIRE

Starting at the pole nearest the “door”, and being stringing up each layer of wire form the spool into each anchor. Pulling or cranking counter clockwise will release the wire.



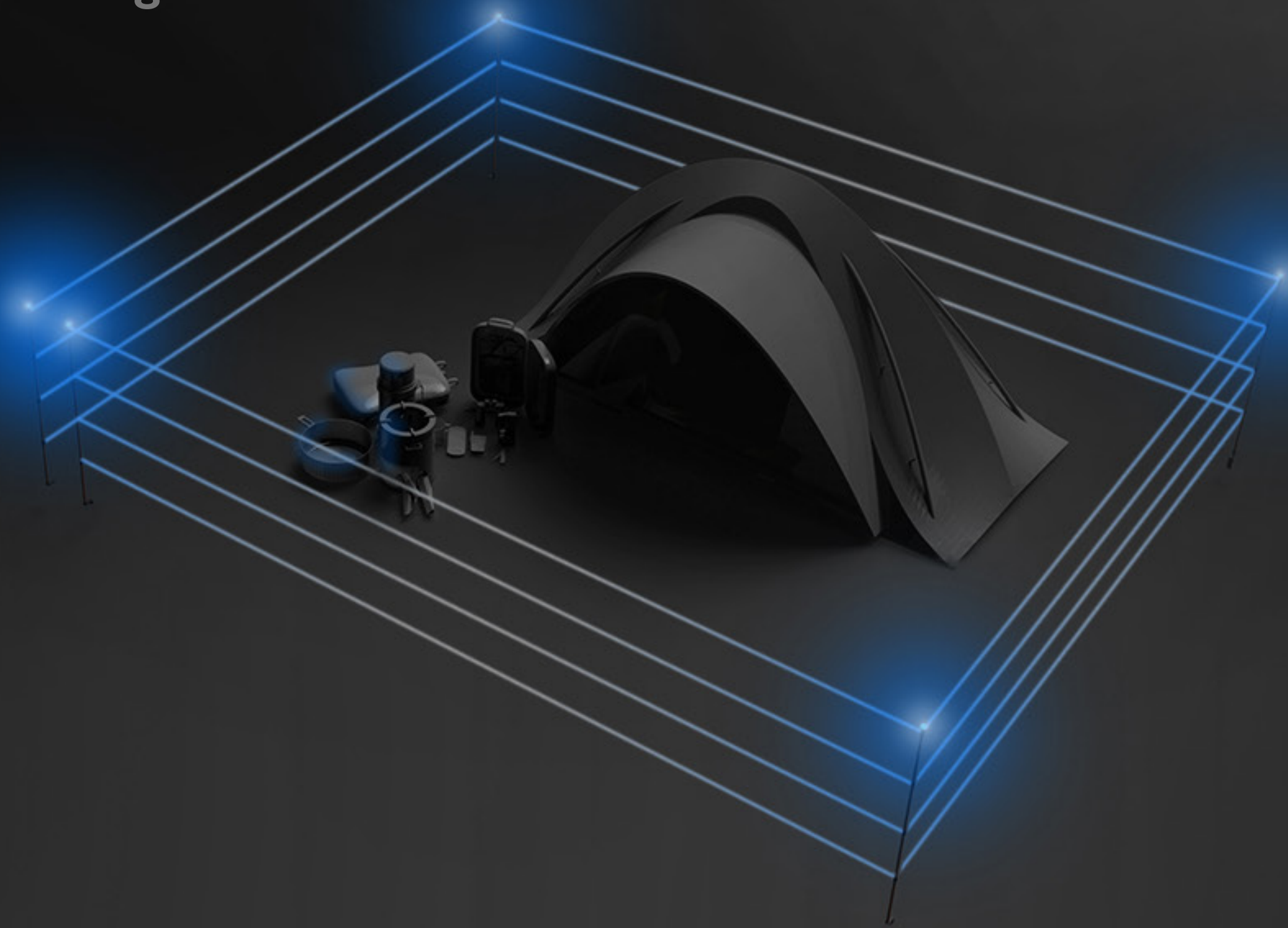
4 GROUND THE CIRCUIT

After threading the wire through all the anchors, drive the grounding rod at least 8 inches into the ground. Slide off the ground cap and place the unit on top.



5 REST EASY

Turning on the fence powers the perimeter indicators, another safety feature that lets bears see the fence from a distance. A single charge lasts about 380 hours.





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USE IT HERE.



OR HERE.



OR EVEN HERE.

THANK YOU!

Any questions or comments are welcomed.