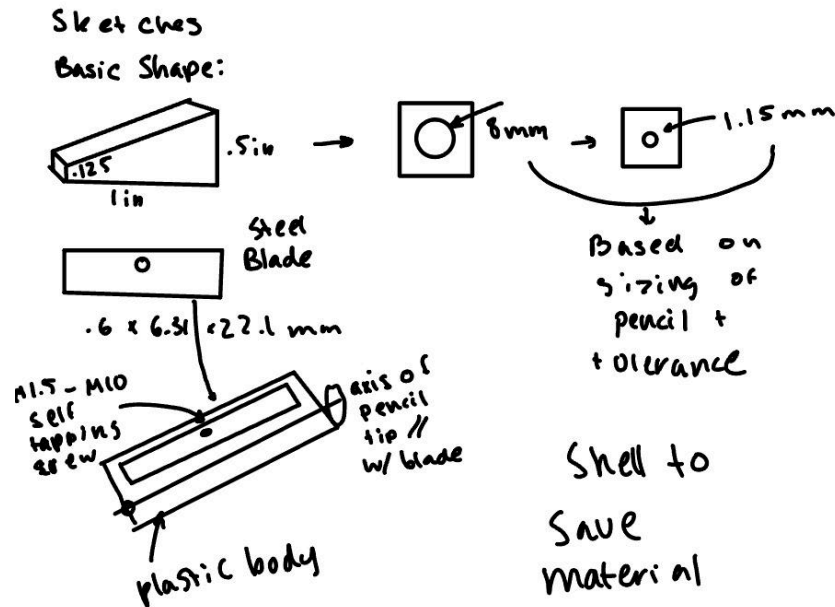


Detailed Sketches:



Manufacturing Plan:

1. Initial prototype: Purchase blade and screw, 3D print body with supports
2. Product at scale: Bulk purchase blade and screws, injection molding for plastic body, screws self tap so by securing body with clamp blade can be screwed onto body in assembly line style

EECS Plan:

- Extend body of sharpener to catch shavings
- Have pencil insert into hole and hit limit switch which will then actuate motor that spins the blade around the pencil tip
- Blade will be sunk inside the sharpener and hole size 8mm so no fingers will get cut
- House battery in base

Materials:

- ABS Plastic body- can be both 3d printed and used for injection molding, lightweight and cheap
- Steel Blade- elongate product life cycle, steel more durable than aluminum, can also be bought in bulk quantities
- Screw: Can buy in bulk quantities  
<https://nbstrongbolt.en.made-in-china.com/product/lyuxkbzvHaVU/China-Self-Tapping-Screw-with-Fine-Tip-Zp-for-Pencil-Sharpener.html>

