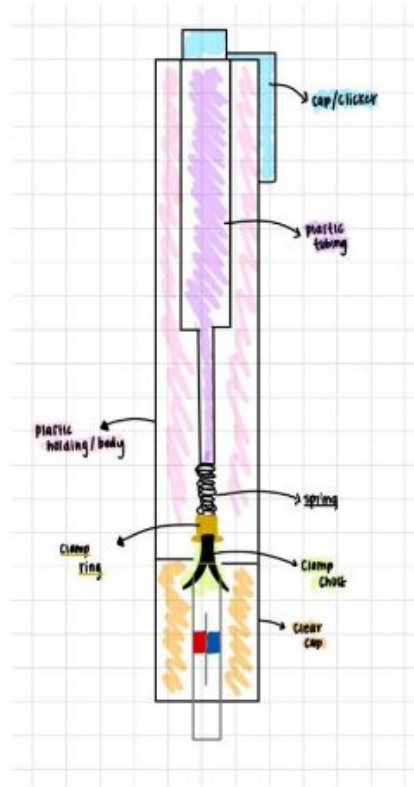


Spiked Drink Detector

Previous Capsule Design



Mechanical pencil model is a good concept, but the clamp for a cylindrical lead doesn't translate well for a flat test strip.

Updated Capsule Design

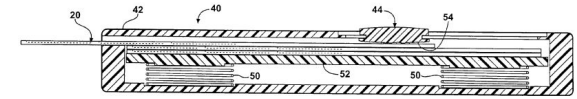
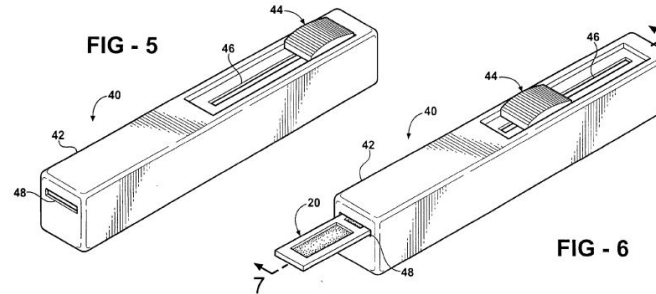


FIG - 7

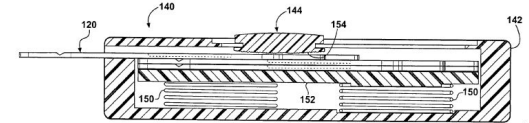
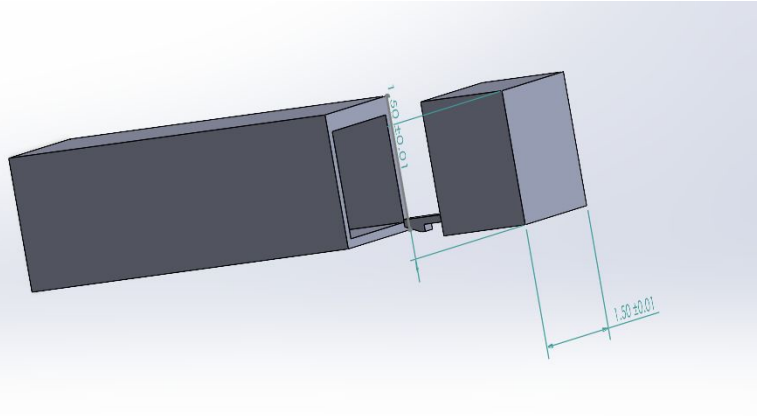
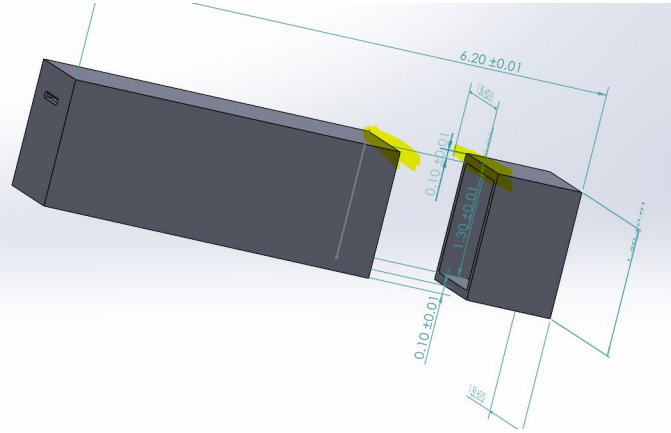


FIG - 10

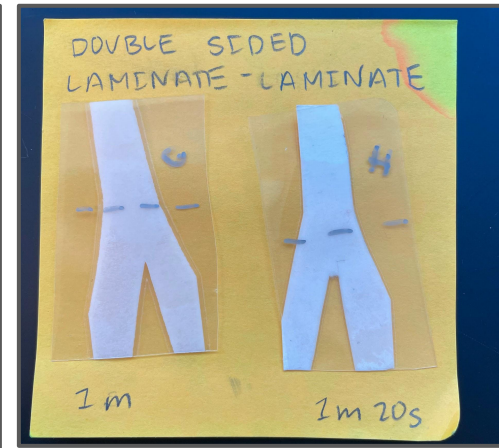
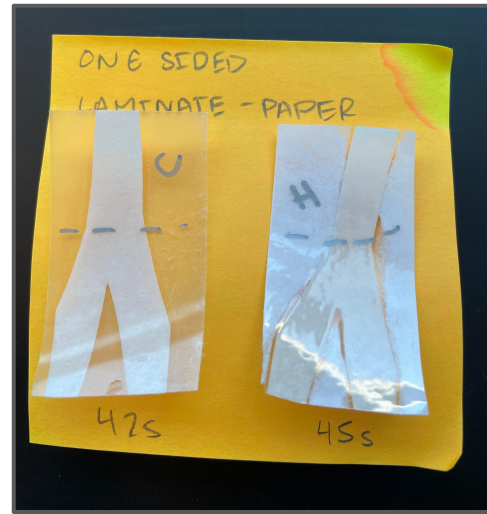
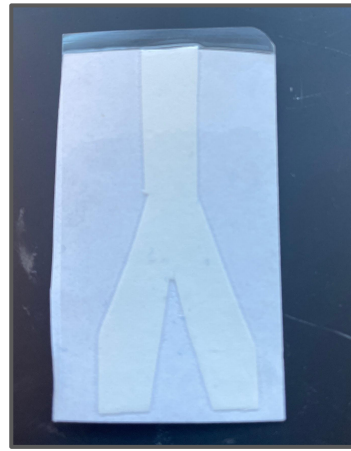
- We still need to attend one more 3-D printing training with McKee
 - Once we have a draft of what we wish to print
- We all also need to familiarize ourselves better with Solidworks
 - We have reached out to a classmate and are meeting this week
- Capsule design has been alternated to meet our deadlines
 - Simpler design
 - One cohesive print vs assembling two prints

<https://patents.google.com/patent/US20070065338>

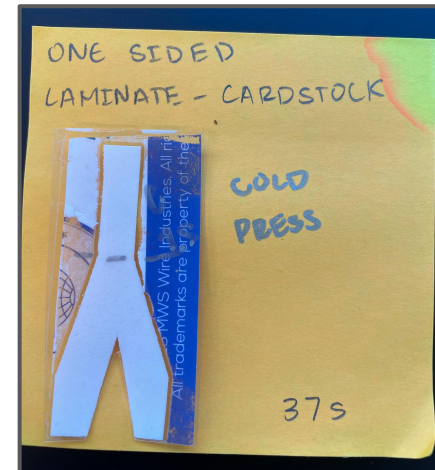
Solidworks



- Slit for test strip dispensing
- Top face near the slit will have the slider, so the top surface should be thicker to account for the slider
- Cap for refilling test strip designs
 - snap on
 - snap hook
 - figure out how to mirror and align hook on the other side of the cap, considering the top surface with slider is thicker



Lamination of test strips to prevent cross-contamination



Data in a tabular form for Testing of Test Strips

- One Sided Cold Pressed are the fastest
- Double Sided take almost double the time
- Hot Pressed tightens the lamination too much

Testing Strips	Cold Pressed with Paper (Lamination Both Sides)	Hot Pressed with Paper (Lamination Both Sides)	Cold pressed with Paper (Lamination One Sided)	Hot Pressed with Paper (Lamination One Sided)	Cold Pressed Hard Paper (Lamination One Sided)
Time (seconds)	60	80	42	45	37

What has changed from last meeting:

- Lab testing
 - 23-02-13 Scotts reagent synthesis (dangerous) dry run with citric acid (safe) to go through the motions in Dr. Liao's lab
 - transitioned to the teaching lab for space
 - 23-02-15 Teaching lab orientation with Hong
 - Safety: lab trainings, MSDS, procedure review
 - All the supplies needed to begin testing
 - Testing has been started unfortunately has been a little slow
- We've been meeting a lot more frequently

TA Notes:

- image comparison between double-laminated fully submerged vs dipping
- make the test strips perfectly symmetrical
- Do more tests to decide the line on test strip
- student teaching lab has dyes

TO DO: Week 7

- Message McKee to see how many more 3D printer sessions we need
- Finish solidworks design by week 8 to be able to print and present
- Know how many test strips we are fitting in device and why?
- Thicker strips or thinner slit on capsule to ensure dispensing 1 strip at a time
- Color of drink same as the testing colors? Limitation?

BY WEEK 9:

- Have test strips with reagents ready
- Makeshift capsule (arts and crafts)
- solidworks ready to present on slides