

• Wadsworth's Plantation

- Erlenmeyer Flask
 - ↳ Paul Rabett - clean?
 - ↳ Available from Rypes
 - Wide mouth, 29 mm opening: 250, 500, 1L, 2, 4, 6
 - ↳ Screw top or heavy rim
 - ↳ 1L - 292 mm high, 168 mm diameter
 - What volume do I need? *Answer*
 - No aluminum! Dangerous - we steel (non-galvanized) *Table@FCO*
 - Use tin foil 400
 - No copper
 - Purchase bowl? Of build?
 - ↳ Glass?
 - Cast Iron - Good, but will absorb oils - season w. neutral oil by soaking in boiling oil
 - Put level somewhere
 - Prof. O - contained levels are too low to make a difference
 - Jones - more expensive, but very good → Worth it!
 - Brown - reacts well

- Stainless - good heat or (bad) heat transfer, heradentics
 - Cock for seal
 - Three-part - ceramic bowl into brass/silvers
Ferrule to stainless
- Wood for bowl - use burlwood
- Pipe water supply - meerschaum, no stainless steel tube

Flasks

- 250 for single 0, 500
- 1000 for multi.

Fisher Scientific, VWR

- CGS/KONTES - custom pieces

- Intersections of tubes - braze w brass (leach up)
- Tigh/ friction fit?

- Measured diameters - Mya Leach thickness

Hose

- Main piece: .24"

- Entry: .21"

54cm

- Bottom - Low: .45" Thickness: .02"

- Bottom - High (min): .53"

- Top - Interface: .44"

Ports (threaded in - Venice)

- Min: .25"

Cool (dches + 6"

Bowl

- Bottom inner: .78"

- Ceramic wall thickness: .16"

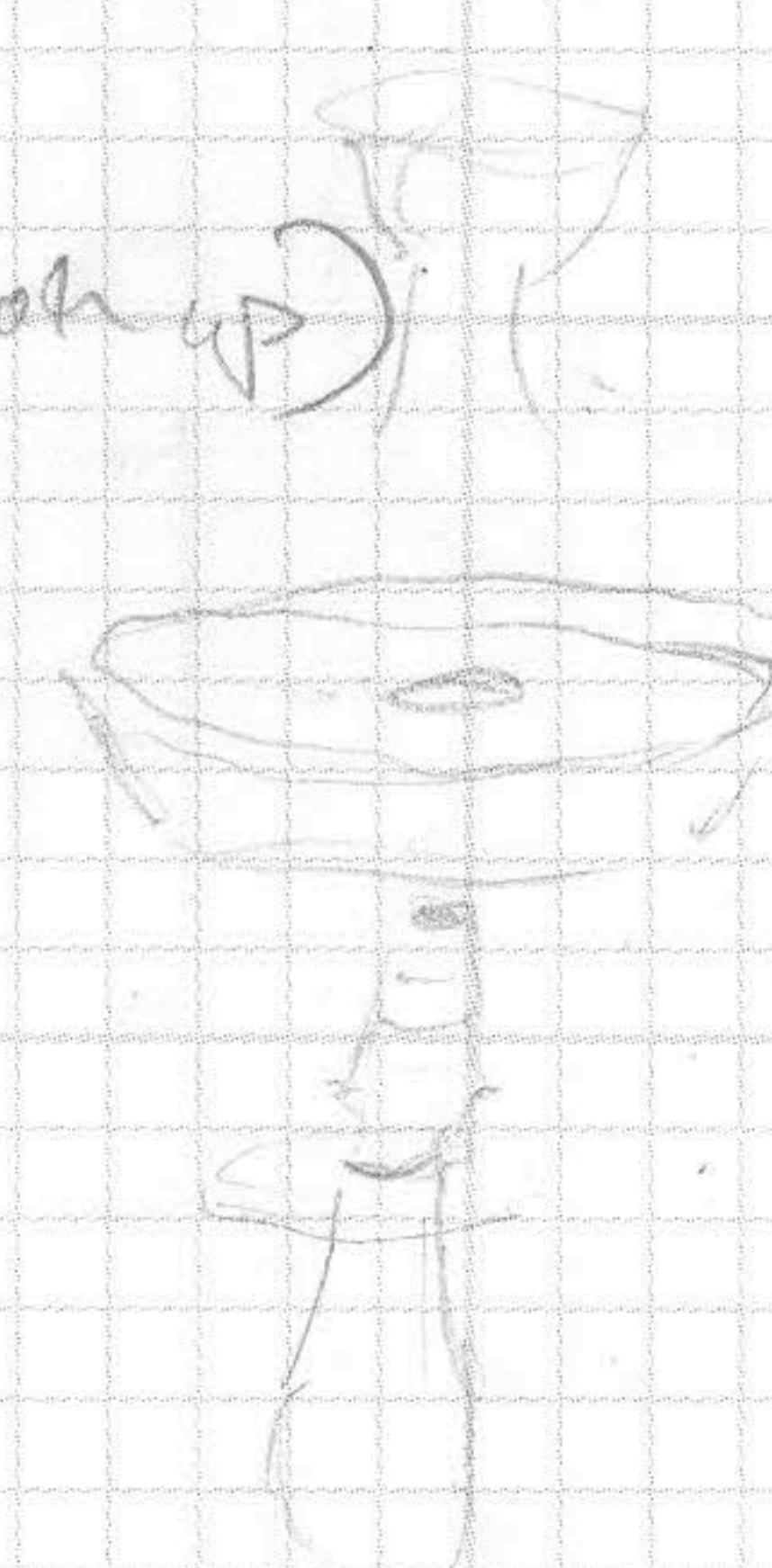
- Bottom outer: 1.14"

- Top inner: 2.00"

- Depth: .89"

- Height: 3.03"

- Hole Dic: .15"



Bowl Design

- Stainless or cast - iron? Can either be worked easily;
- Use venturi effect in bowl?
- Dimensions - Padric's

Max. Dia: 2.5"
Base Dia: 1.5"
Bowl depth: 1.5"
Total height: 2.5"

2.5"

Perhaps
pull curve
or inside -
Free stages.

- Will plug melt under
high heat?
- What to dig. slightly larger
than 2.5"?

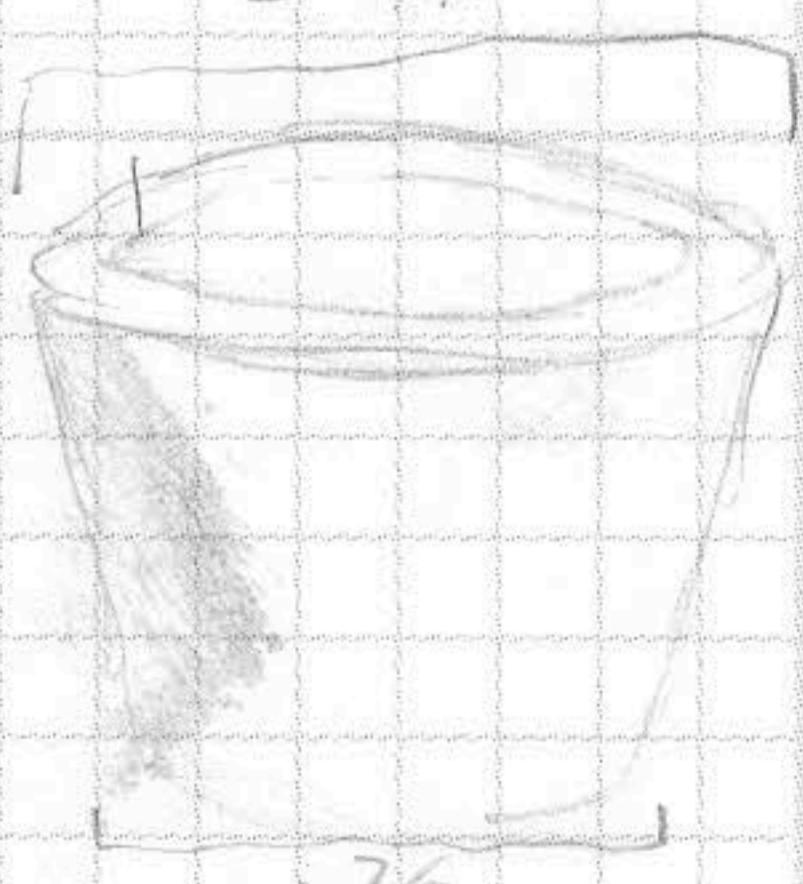
- Drill out - leave bottom
rough
- multiple drill w/
1/2" hole @ bottom?

- Seasoning - use Crisco & tobacco

Tube Design

- Bolt on stainless petri dish for coal catch
- Thermocouple & airflow opaque

Filter Tube

 $2\frac{3}{16}$ 

$\frac{1}{8}^{\text{in}}$ hole for $\frac{1}{4}$ " tube wall
1/2" hole?

Tubing widths

$$\pi R^2 - \pi r^2 = 2\pi r^2$$

$$\pi R^2 = 2\pi r^2$$

$$R^2 = 2r^2$$

$$R = \sqrt{2}r$$

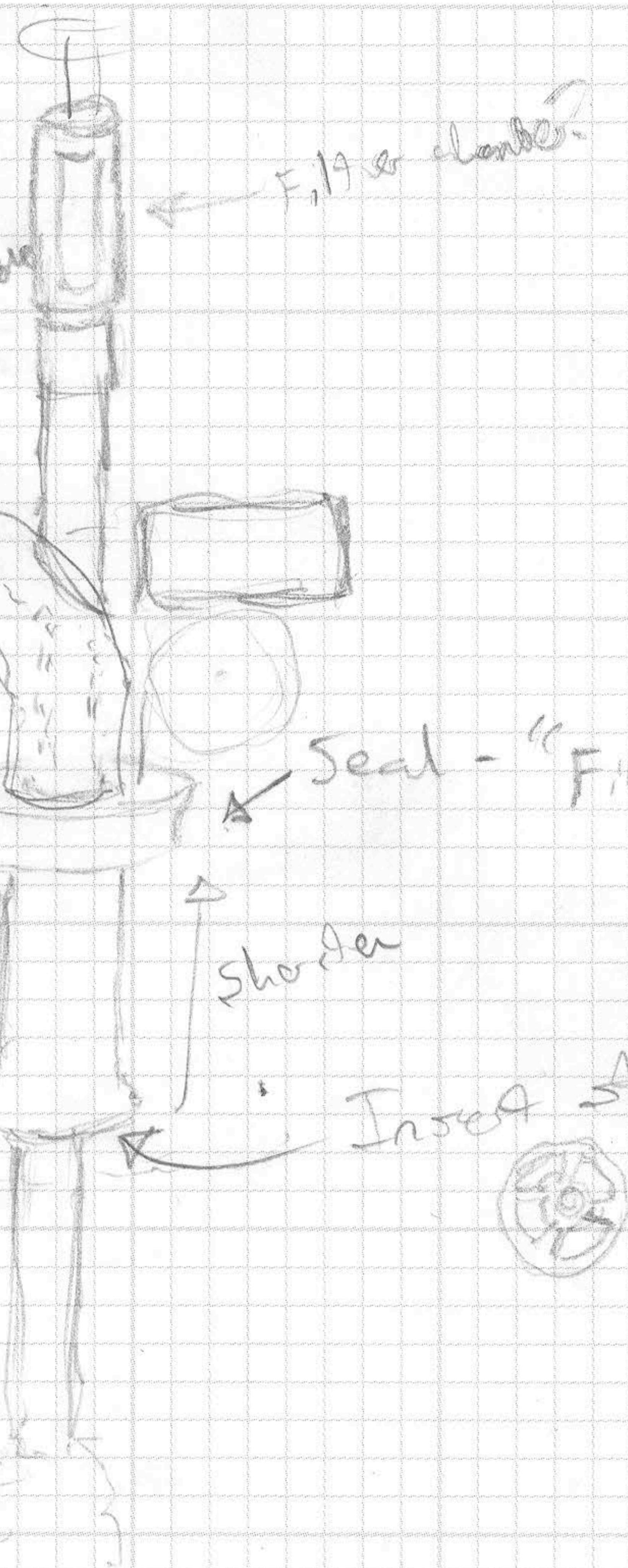
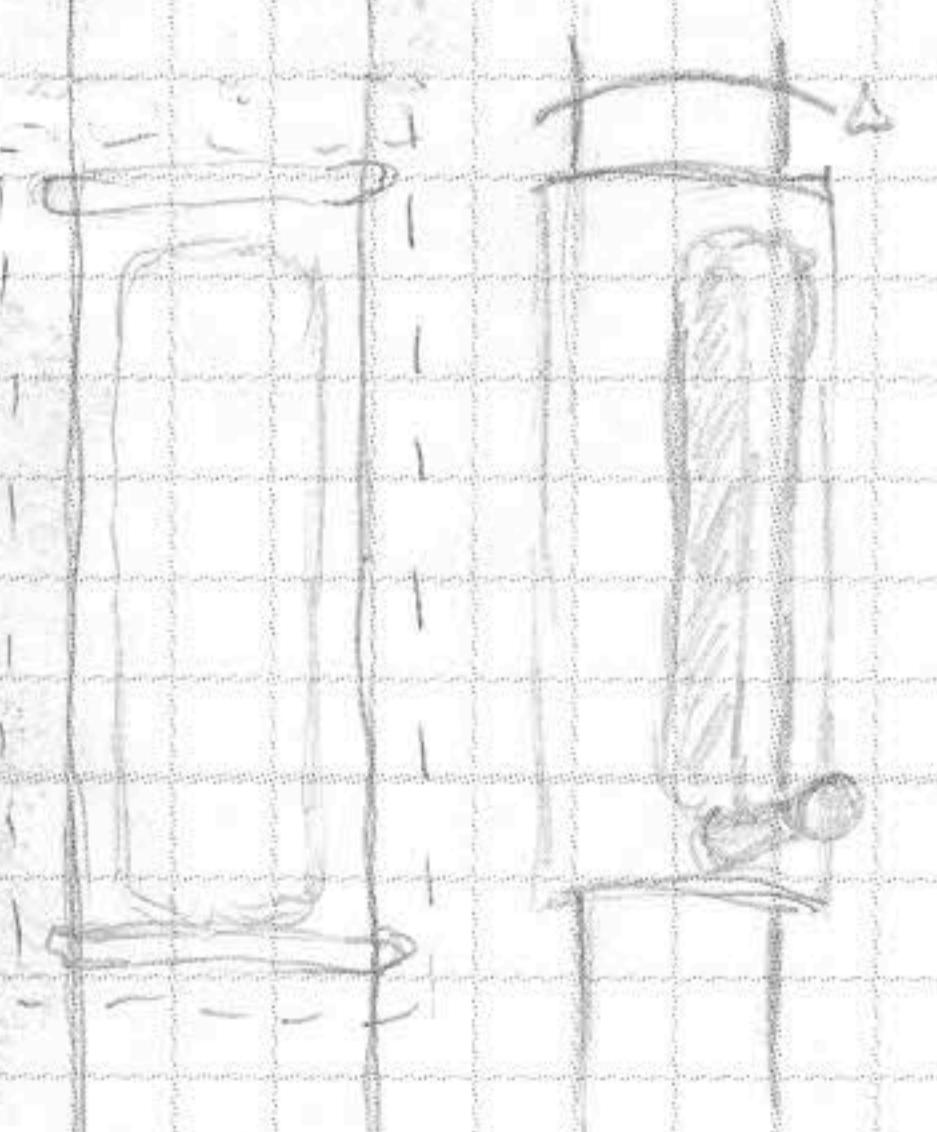
$$R = .357, r = .26$$

$$R = .6, r = .369$$

Materials

• 304, 321, 316 stainless

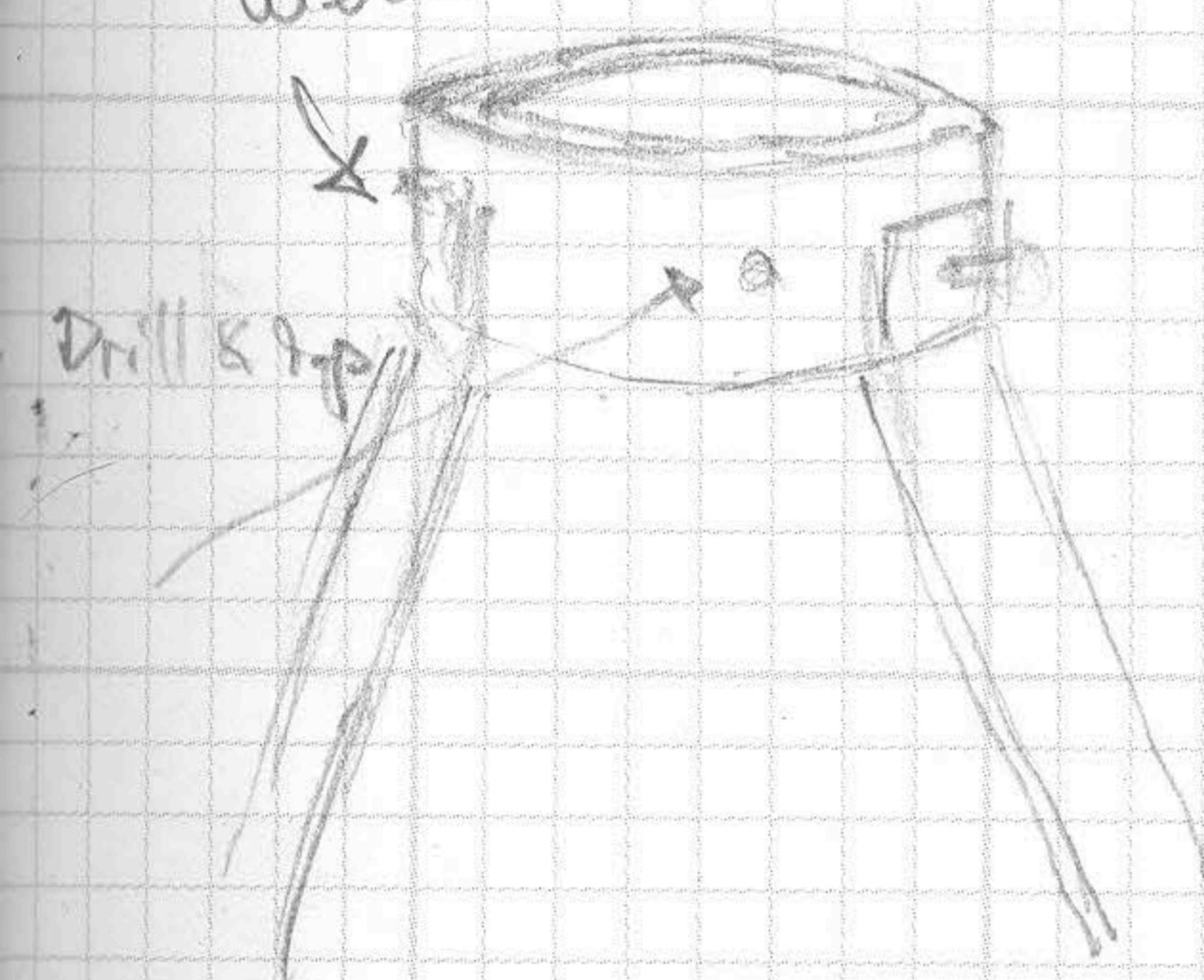
• Welded



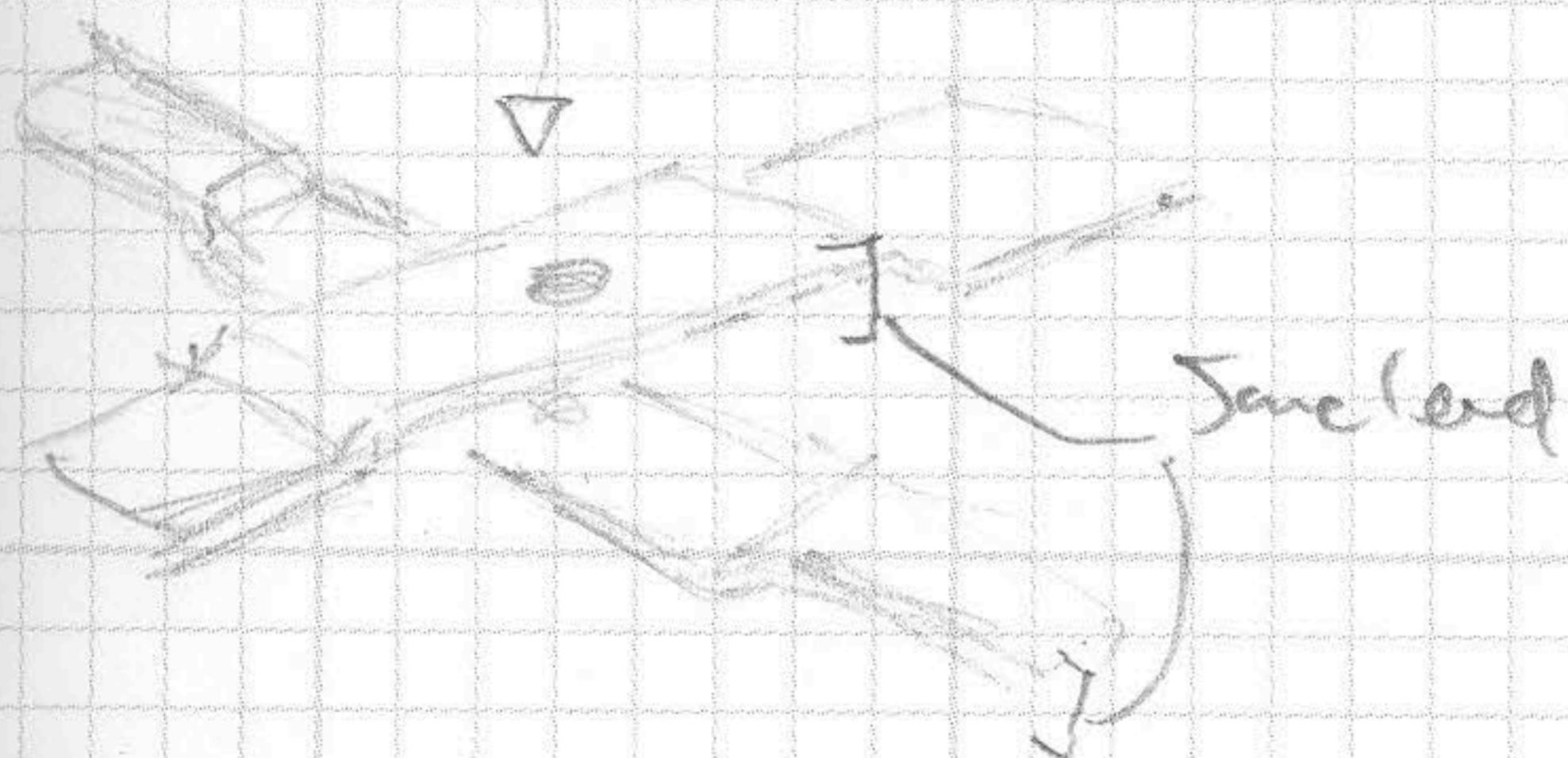
Cage

- Pyrex Dimensions
 - Weight : 8.822 in
 - Width :
 - Mouth min: 1.9 in
 - Mouth max: 2.0 in
 - Lip min: 2.35 in
 - Lip max: 2.09 in
 - Base max: 4.8 in.

weld



Ring. 50 cm
swelling



Parts Required

OliveMetals.com

✓ 1 ft; .25" nom. Sched 40 Stainless Pipe 304 -

✓ 1 ft; .75" nom.

13.67
8.51

McMaster-Carr

• 12" Cast Gray Iron, 2 1/2" dia; - 2902H29 -

30.79

~~PTFE Hose, 1/2 in. ID - 4 ft. - 52S15H12~~

WxHxL - 19.32

3083 from MSC for MFTI, w. Fittings

Material Dimensions

Large Pipe - 316 SS

2.5" Stock - 55 304

• OD = 1.005"

• OD = 2.002"

• ID = .971"

• WT = .062

Small Pipe - 304 SS

2" Stock

• OD = .905"

• OD = 2.002"

• ID = .877"

• WT = .130

Plug

• OD - Bottom = 1.900"

Clear Pipe

• OD = 1.875

• ID = .750

• WT = .060

Tap Repair

800-827-7787

Order of Tasks

• Order Iron + make bowl

• Create test bed - aluminum plate

* • Create adapter from large pipe to hose

* • Create handle w/ adapter

• Test system

* • Cut pipe - Thread for flow meter

• Test system

* • Baread plug, finish

• Attach pipe X Seal

• Finish base

