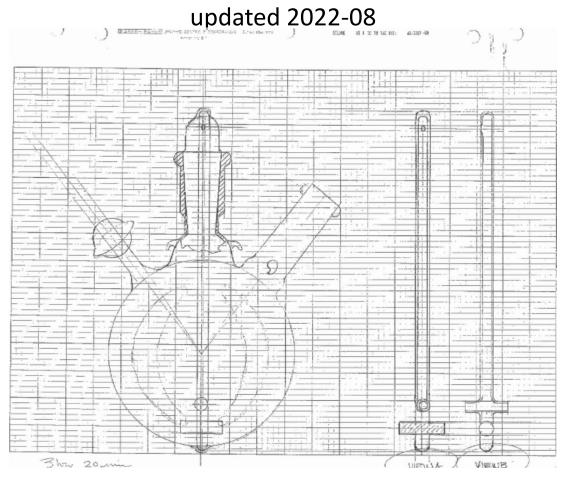
Gas Circulation Apparatus



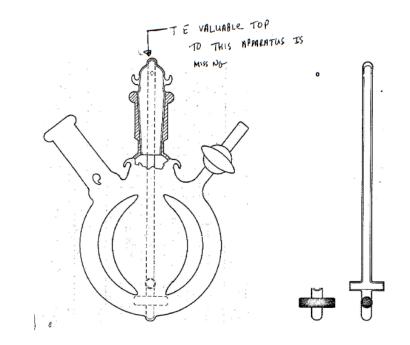
Aaron Wegener

Gas Circulation Apparatus

- Incorporates a continuous stream of bubbles into a solution
- Mostly used 'open,' during the synthesis of cobalt(III) Werner complexes

$$\begin{array}{c} \text{Co(OAc)}_2\\ \text{·4H}_2\text{O} \end{array} \xrightarrow{\text{I)} (S,S)\text{-dpen,}} \\ \text{air, charcoal,} \\ \text{(2) aq. HCI} \end{array} \xrightarrow{\text{Ph}} \begin{array}{c} \text{Ph}\\ \text{Ph}\\ \text{H}_2\text{N}_{\text{III}} \\ \text{NH}_2 \\ \text{H}_2\text{N}_{\text{III}} \\ \text{NH}_2 \\ \text{Ph} \end{array} \xrightarrow{\text{Ph}} \begin{array}{c} \text{Ph}\\ \text{Ph}\\ \text{NH}_2 \\ \text{NH}_2 \\ \text{NH}_2 \\ \text{Ph} \end{array}$$

 Other gases can be used via the stopcock/gas source





Gas Circulation Apparatus



Video provided curtesy of Dr. William Maximuck

- Make sure that all parts (flask, stirrer, and lid) are labeled with the same letter. This signifies that they all belong together.
- Once contents are in flask (may be easier to "pre-dissolve" to prevent contents burying the stirrer), make sure solvent level is above T-shape, begin stirring slowly, and ramp up to at least 500 rpm to induce bubbling of solvent in the flask.
- If apparatus is not stirring smoothly, one can wedge a Kimwipe or Teflon ring in between the stopper and flask to relieve pressure between the stopper and stirrer.
- Applying a small amount of silicone grease to the top of the stirrer and cap reduces noise

For repairs: take the broken flask and the blueprint to Bill Merka

Thank you!