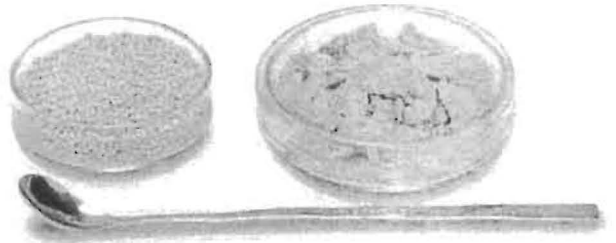


MOC-120H

Accurate moisture measurement
with new weight sensor 

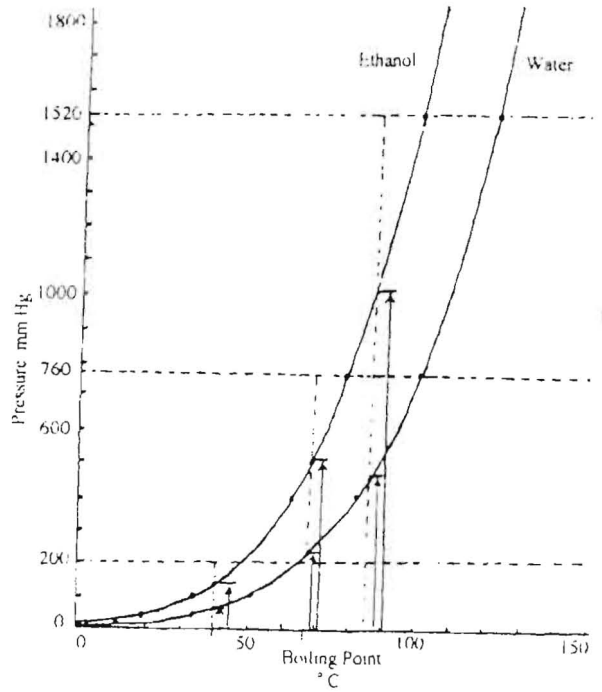
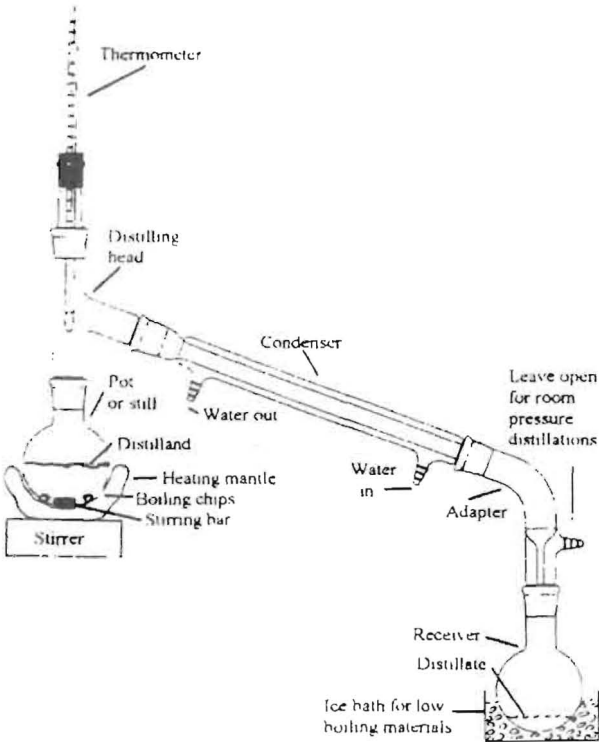
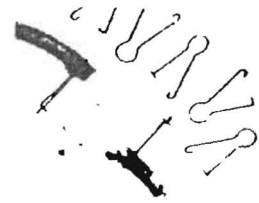
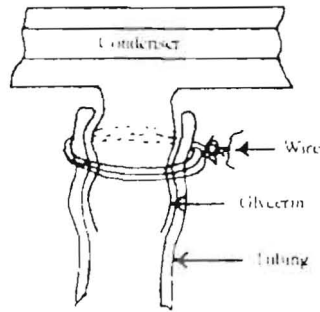


(7)

Connecting tubing to a condenser.

Wire (left). Commercial clamp (right).

(Courtesy - Ace Glass Co., Vineland, NJ)



A plot of vapor pressure vs. temperature for water and ethanol.

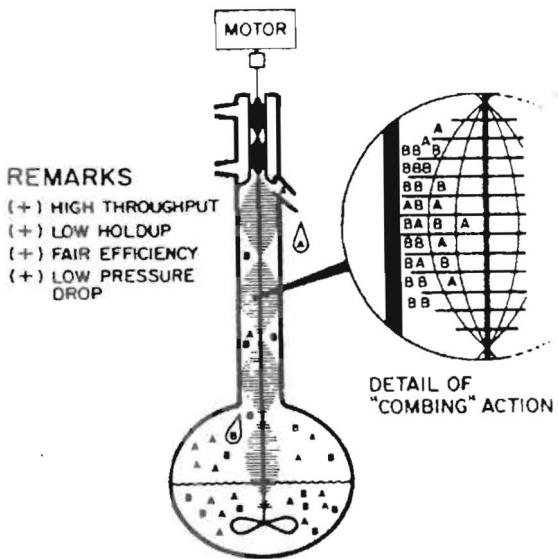
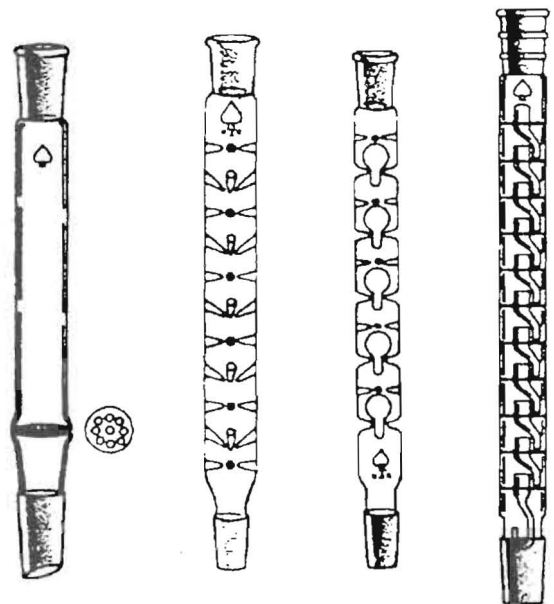
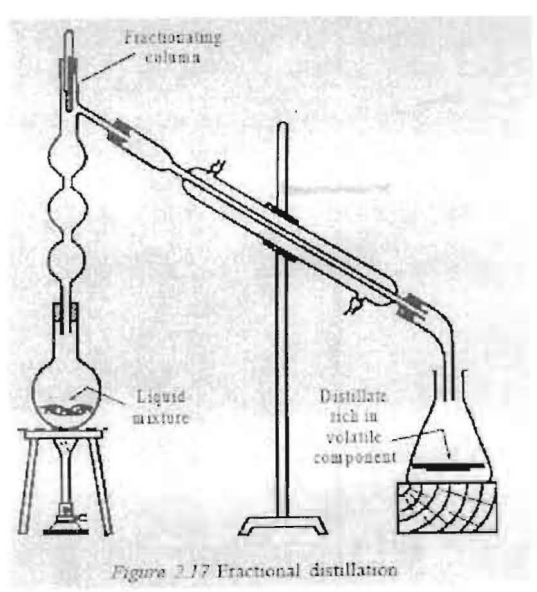
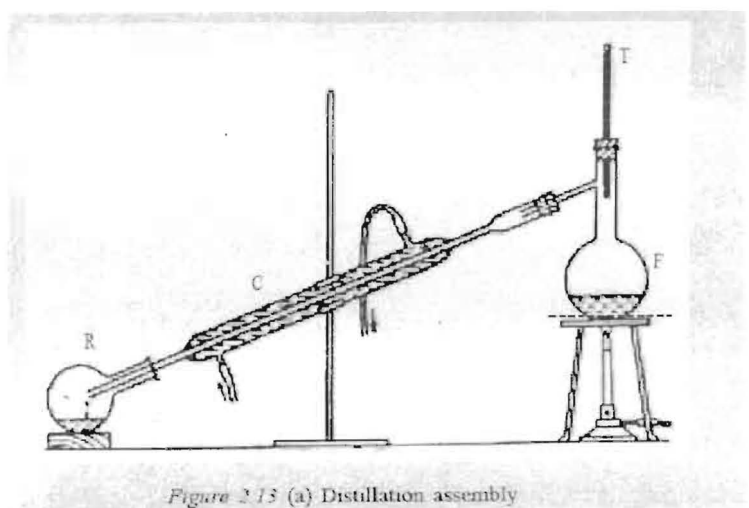
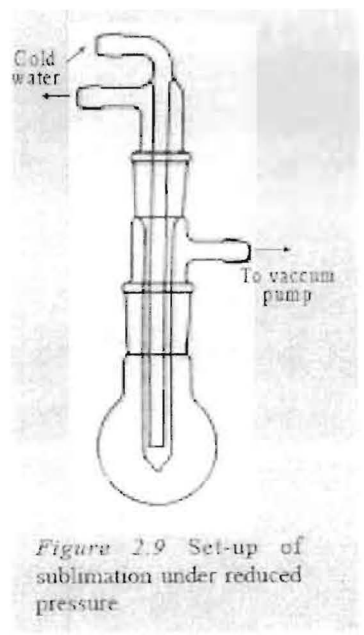
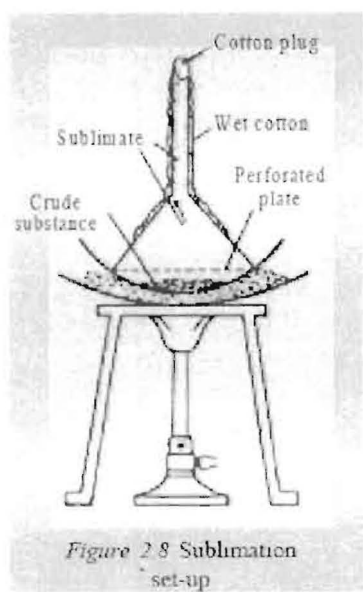


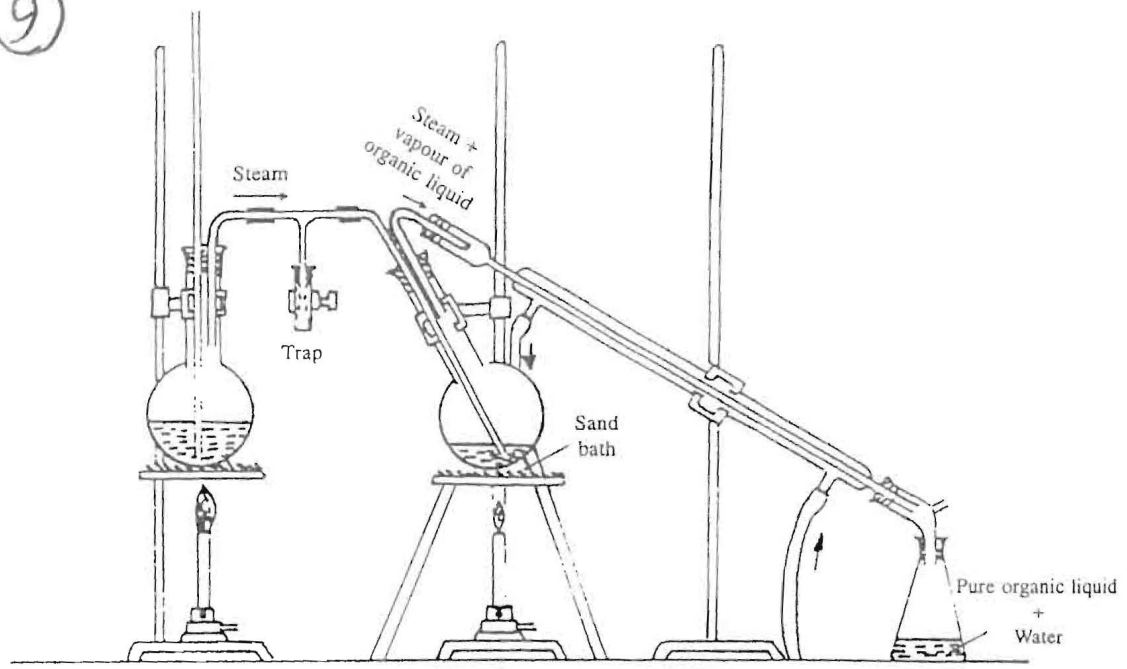
Diagram illustrating the principle of a metal mesh spinning band column.



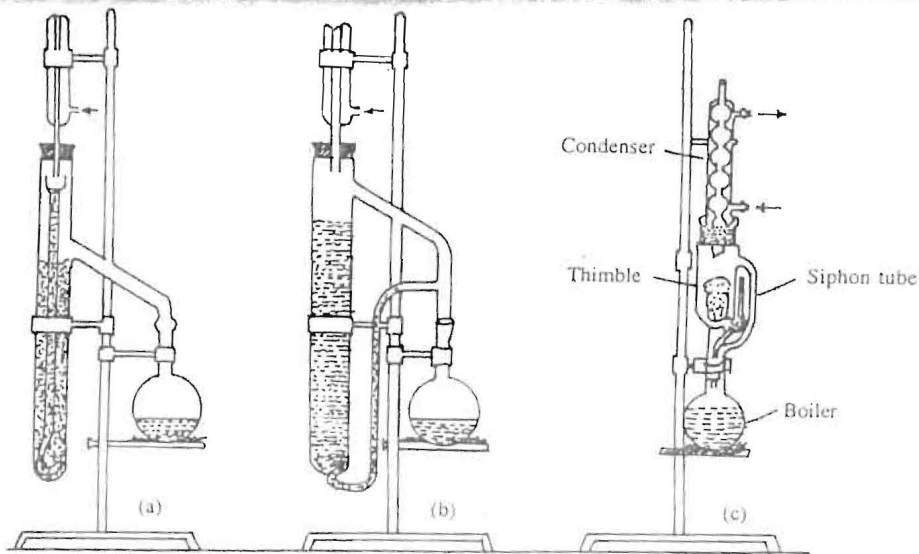
Several distilling columns shown from left to right: Hemple, Vigreux, Snyder, Perforated plate



9



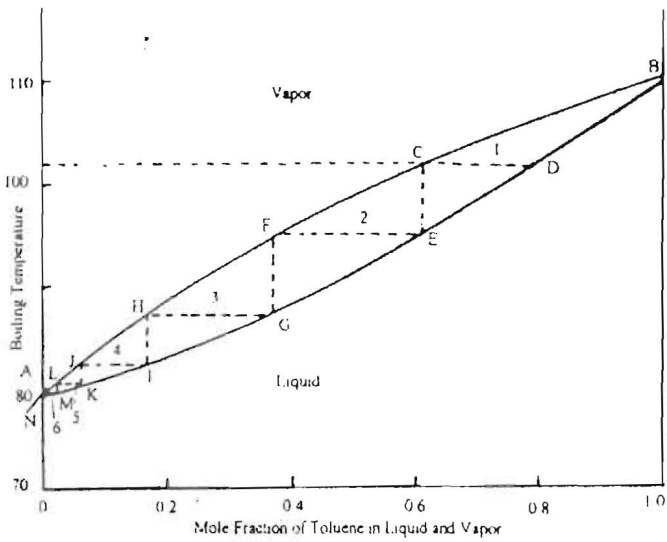
Steam distillation apparatus



Continuous extraction apparatus. (a) Extraction with solvents lighter than water, (b) Extraction with solvents heavier than water and (c) Soxhlet extraction apparatus for solids.

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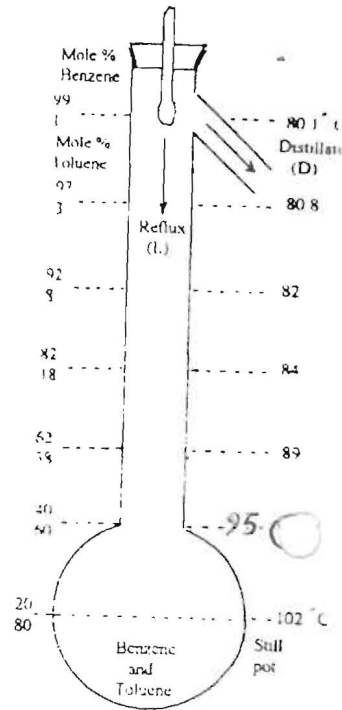
(5)



Boiling point - composition diagram for a mixture of benzene and toluene at 760 torr pressure.

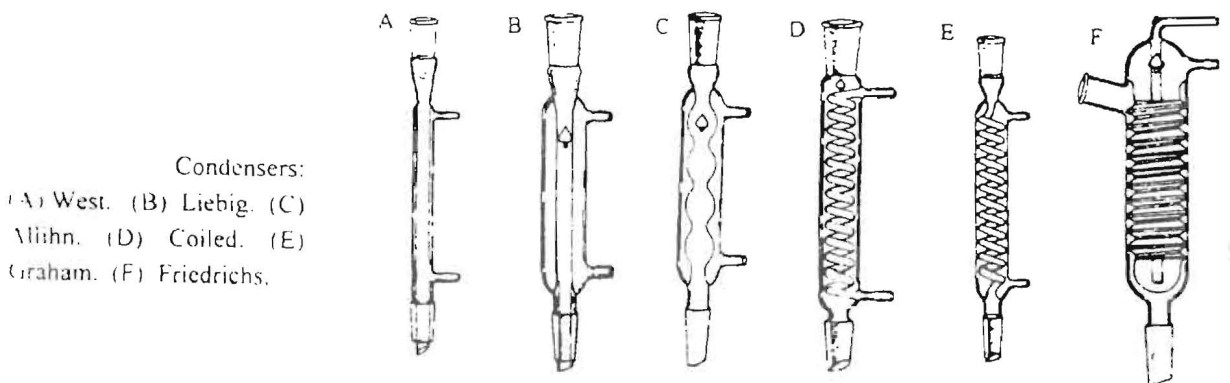
Relationship between the number of theoretical plates and the difference in boiling point for a good separation (Courtesy- K. Wiberg- *Laboratory Technique in Organic Chemistry*, McGraw-Hill, NY, 1960)

Number of plates	Difference in b.p. °C
0	215
1	108
2	72
3	54
4	43
5	36
10	20
15	13
20	10
30	7
50	4
100	2



Composition changes in a distillation column.

Column packing materials. From left to right: Glass beads, Rashig rings, Berl saddles, Protruded metal.



Condensers:
 (A) West. (B) Liebig. (C) Miñh. (D) Coiled. (E) Graham. (F) Friedrichs.

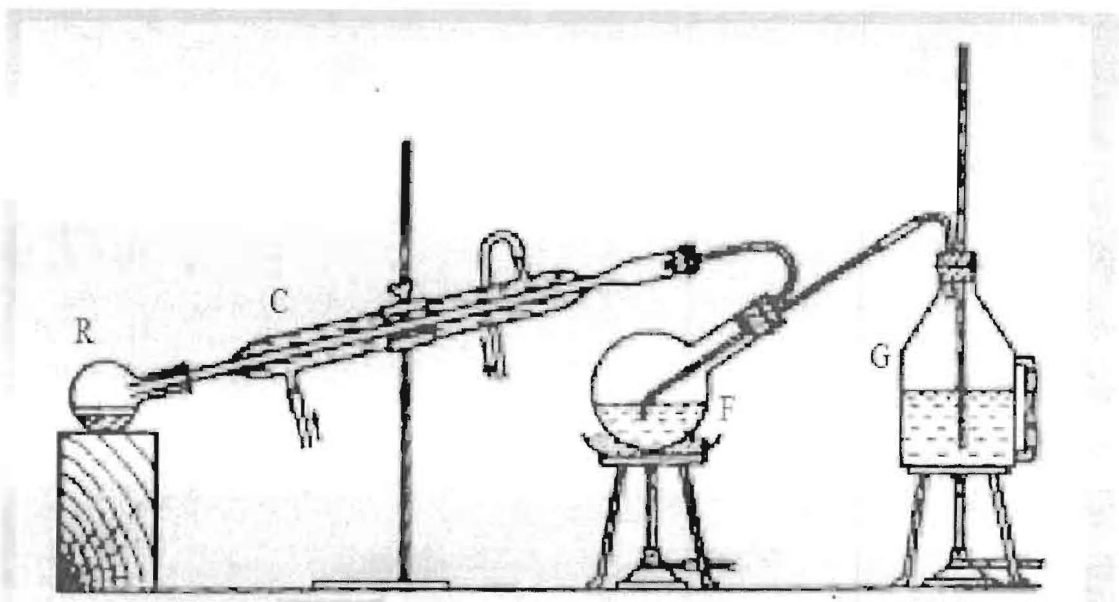
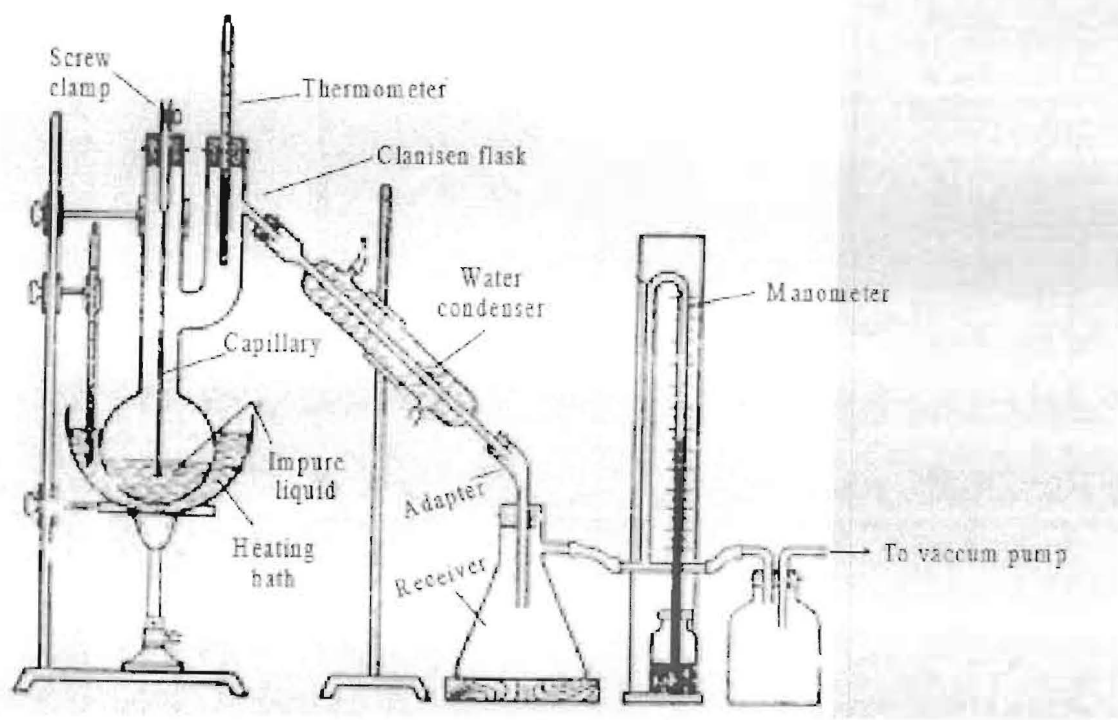
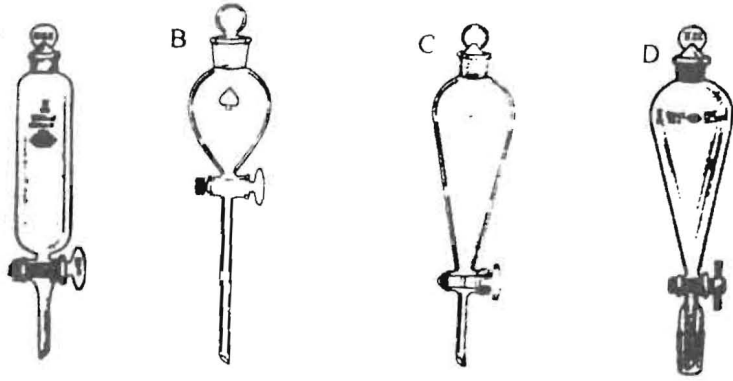
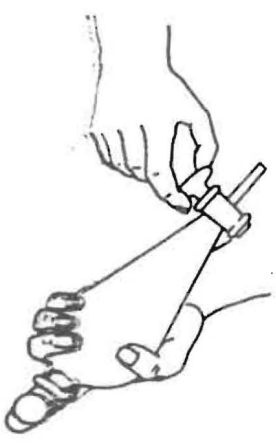


Figure 2.22 Steam distillation apparatus

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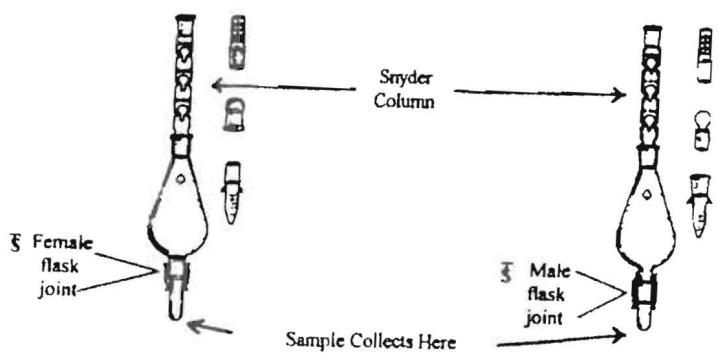


Various types of separatory funnels. (A) Cylindrical. (B) Globe. (C) Pear. (D) Standard taper bottom. (Courtesy - Ace Glass Co., Vineland, NJ)

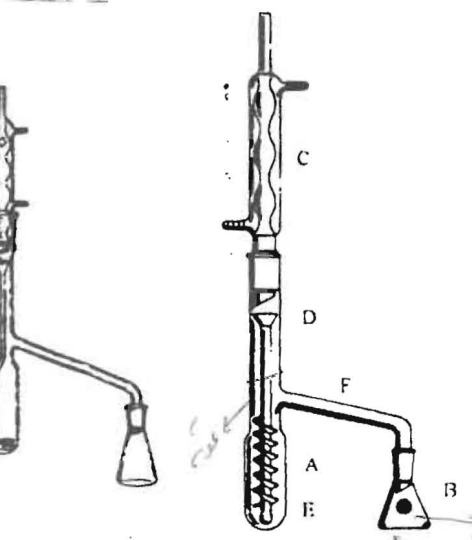


Separatory funnel venting technique.

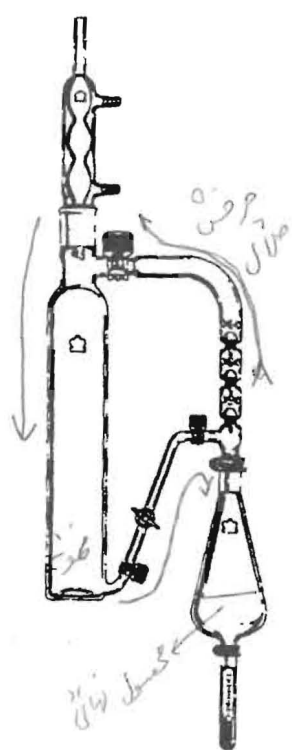
Courtesy - R.J. Oullette, C.A. Donn, I.S. Swenton, S. Marcus. *Introductory Experimental Chemistry*. Harper & Row, New York, 1975)



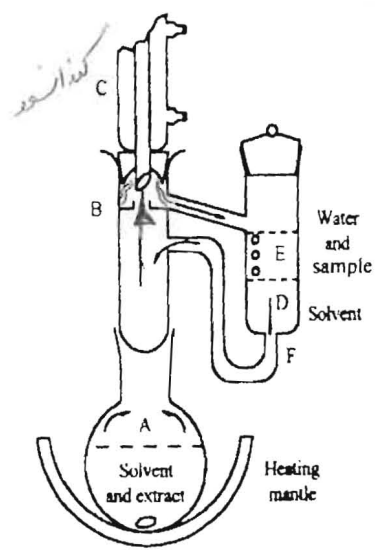
A Kuderr concentrator. (Courtesy - Ace Glass Co.)



Continuous extractors using lighter-than-water. (Courtesy - Ace Glass Co., Vineland, NJ and Lab Glass Vineland, NJ)



Continuous heavier-than-water extractor with built-in concentrator. (Courtesy - Kontes Glass Inc., Vineland, NJ)



A continuous solvent-heavier-than-water extractor.