

## Section-6

Q2. Ans.: Cochran boiler:- It is a vertical drum axis, natural circulation, natural draft, low pressure, multi-tubular, solid fuel fired, fire tube boiler with internally fired furnace. It is the modified form of a simple vertical boiler.

### \* Main parts and construction

1. Shell
2. Grate
3. Combustion chamber
4. Fire tubes
5. Fire hole
6. Furnace
7. Chimney
8. Fire brick lining
9. manhole
10. Fuel pipe
11. Pressure gauge
12. Safety valve
13. Water level indicator.
14. Stop valve.
15. Blow off valve.

\* Benson boiler:- It is a high pressure, drumless, supercritical, water tube steam boiler with forced circulation. This boiler is a supercritical boiler in which the feed water is compressed to a supercritical pressure and this prevents the formation of bubbles in water tube surface. It was the latent heat of water reduce to zero the water directly changes into steam without the formation of bubbles.

## \* Construction or Main Parts:

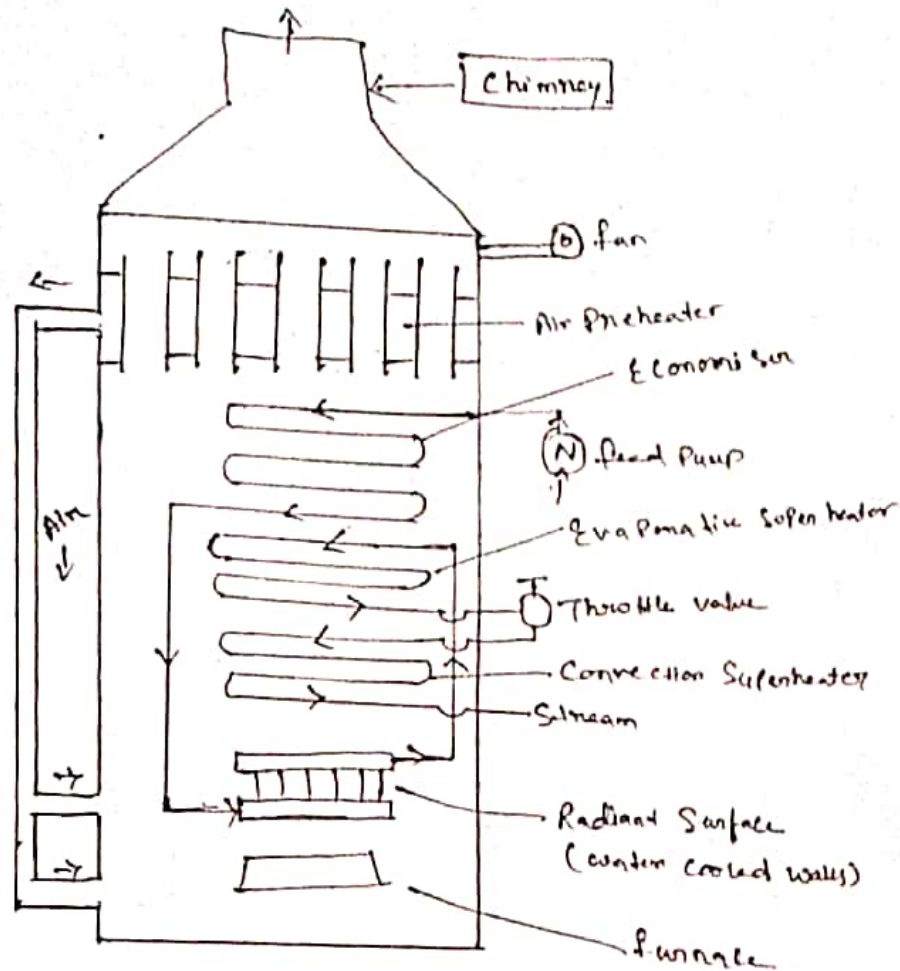


Fig. 1. Benson Boiler

1. Air Preheater
2. Economiser
3. Radiant Superheater
4. Convection Evaporator
5. Convection Superheater
6. Furnace
7. Feed Pump