

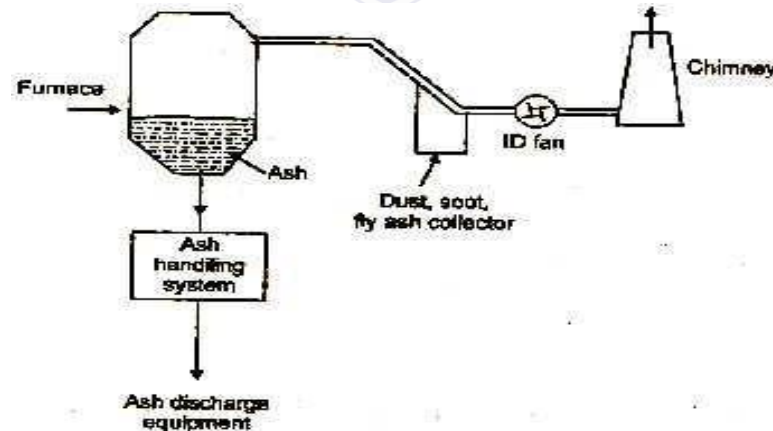
## Ball And Race Mills

In this mill the coal passes between the rotating elements again and again until it has been pulverized to desired degree of fineness. The coal is crushed between two moving surfaces, namely, balls and races. The upper stationary race and lower rotating race driven by a worm and gear hold the balls between them. The raw coal supplied falls on the inner side of the races. The moving balls and races catch coal between them to crush it to a powder. The necessary force needed for crushing is applied with the help of springs.

The hot air supplied picks up the coal dust as it flows between the balls and races and then enters the classifier. Where oversized coal particles are returned for further grinding.

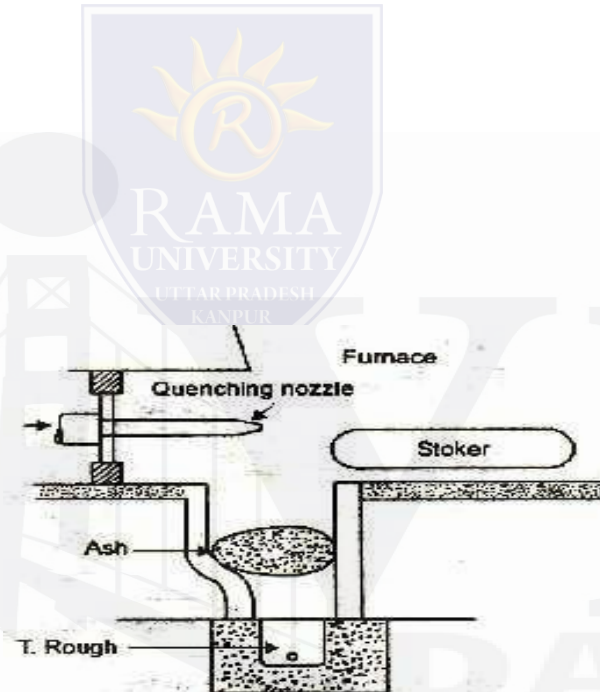
### **Ash Handling Equipment:**

Mechanical means are required for the disposal of ash. The handling equipment should perform the following functions: 1. Capital investment, operating and maintenance charges of the equipment should be low. 2. It should be able to handle large quantities of ash. 3. Clinkers, shoot, dust etc. create troubles. The equipment should be able to handle them smoothly. 4. The equipment used should remove the ash from the furnace, load it to the conveying system to deliver the ash to dumping site or storage and finally it should have means to dispose of the stored ash. 5. The equipment should be corrosion and wear resistant.



## Hydraulic System

In this system, ash from the furnace grate falls into a system of water possessing high velocity and is carried to the sumps. It is generally used in large power plants. Hydraulic system is of two types, namely, low pressure hydraulic system used for intermittent ash disposal figure. Figure shows hydraulic system.



## Water-Jetting System

Water jetting of ash is shown in figure. In this method a low pressure jet of water coming out of quenching nozzle is used to cool the ash. The ash falls into trough and is then removed.

### **DRAUGHT:**

Draught is defined as the difference between absolute gas pressure at any point in a gas flow passage and the ambient (same elevation) atmospheric pressure. Draught is achieved by small pressure difference which causes the flow of air or gas to take place. It is measured in millimetre (mm) or water.

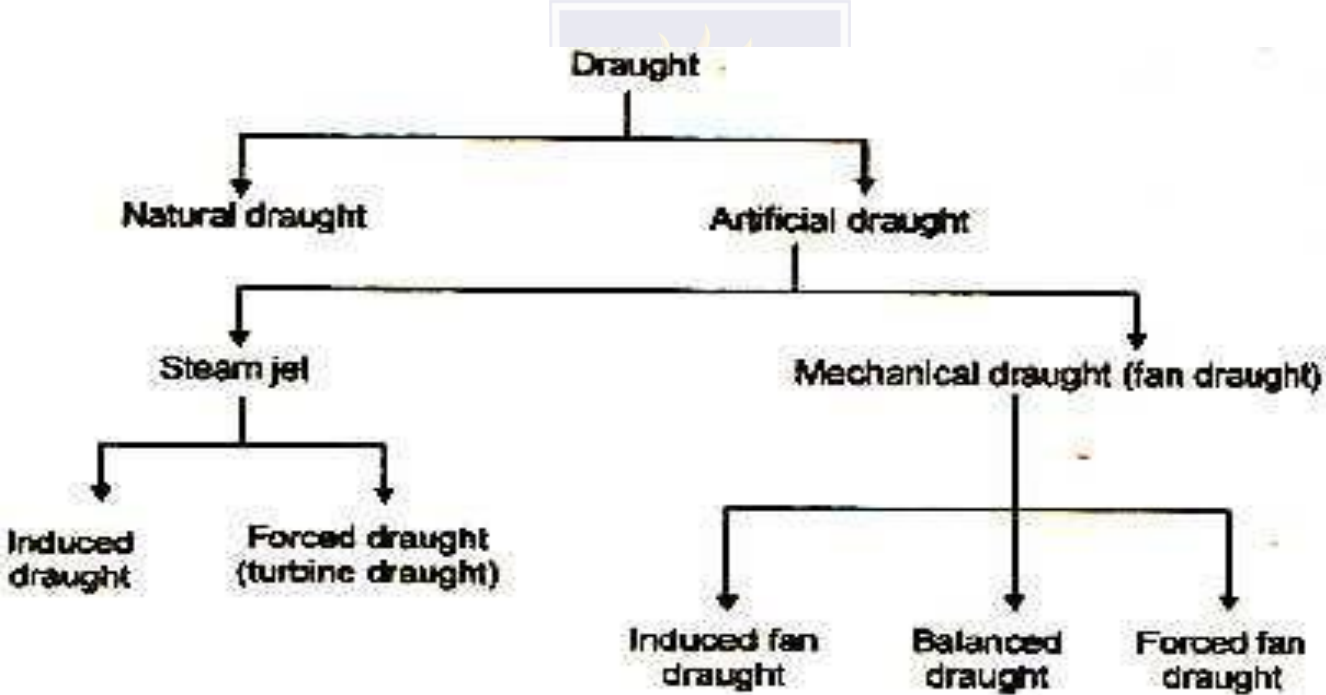
The purpose of draught is as follows:

- To supply required amount of air to the furnace for the combustion of fuel

The amount of fuel that can be burnt per square root of grate area depends upon the quantity of air circulated through fuel bed.

To remove the gaseous products of combustion.

# Classification of DRAUGHT





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