



SNS COLLEGE OF TECHNOLOGY

AN AUTONOMOUS INSTITUTION



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DEPARTMENT OF AGRICULTURAL ENGINEERING

COURSE CODE & NAME: 19AGT301 & HEAT POWER ENGINEERING

III YEAR / V SEMESTER

UNIT : V BOILERS

Topic : Boiler Mountings



BOILER MOUNTINGS AND ACCESSORIES





Boiler Mountings:

The necessary devices installed or mounted for the *safety* of boiler and its *control* are called boiler mountings.



Boiler Accessories:

The devices which are installed in the boiler for their *efficient operation* and *smooth working* are called Boiler Accessories.



Boiler Mountings for safety:

1. Two water level indicators – 2
2. Two safety valves.
3. Combined high steam and low water safety valve.
4. Fusible plug.



Boiler Mountings for control:

1. Pressure gauge
2. Junction or stop valve
3. Feed check valve
4. Blow-off cock
5. Man hole and mud hole



Boiler Accessories for efficient operation:

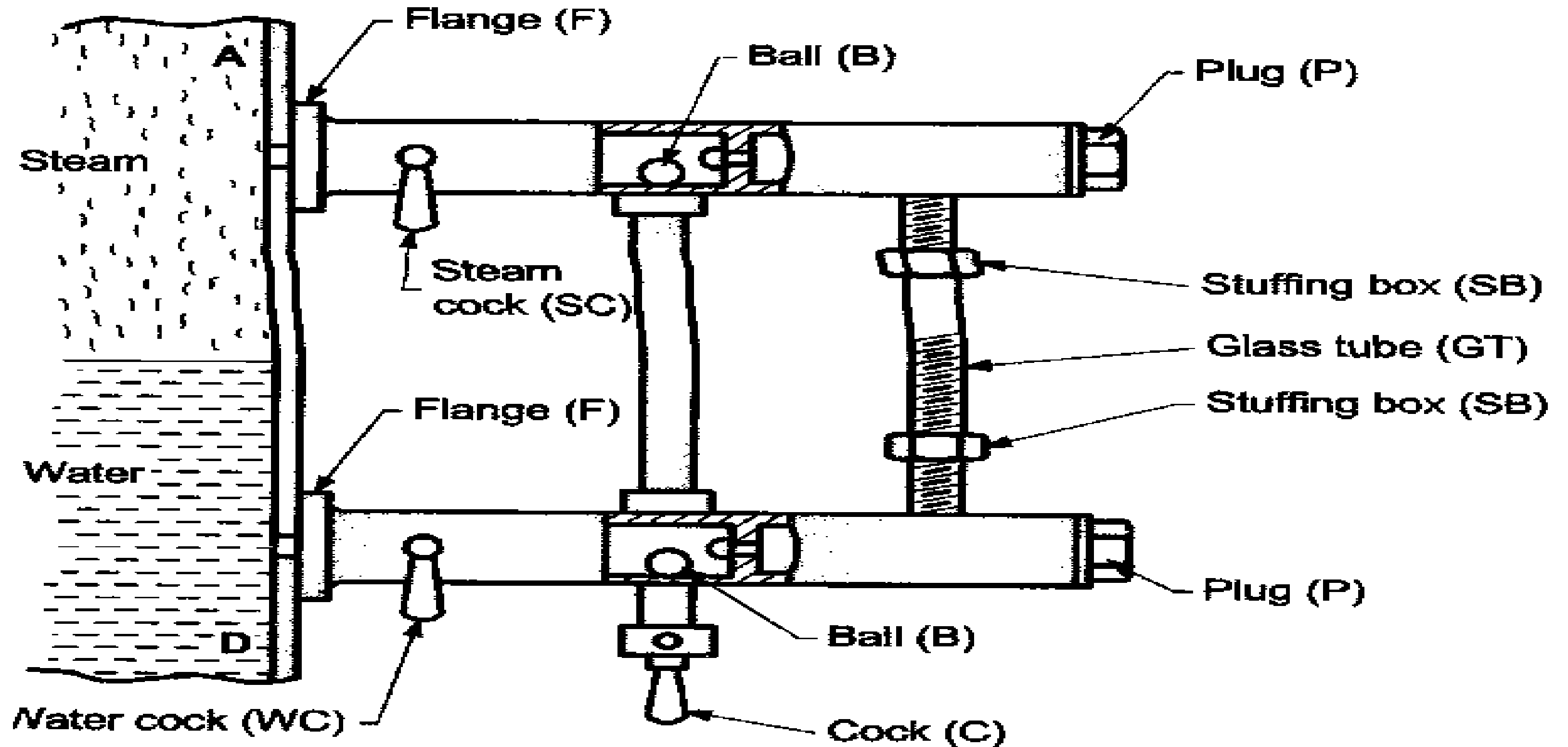
1. Water heating devices.
2. Water feeding devices.
3. Super heater
4. Economizer
5. Air preheater



BOILER MOUNTINGS



1. WATER LEVEL INDICATOR



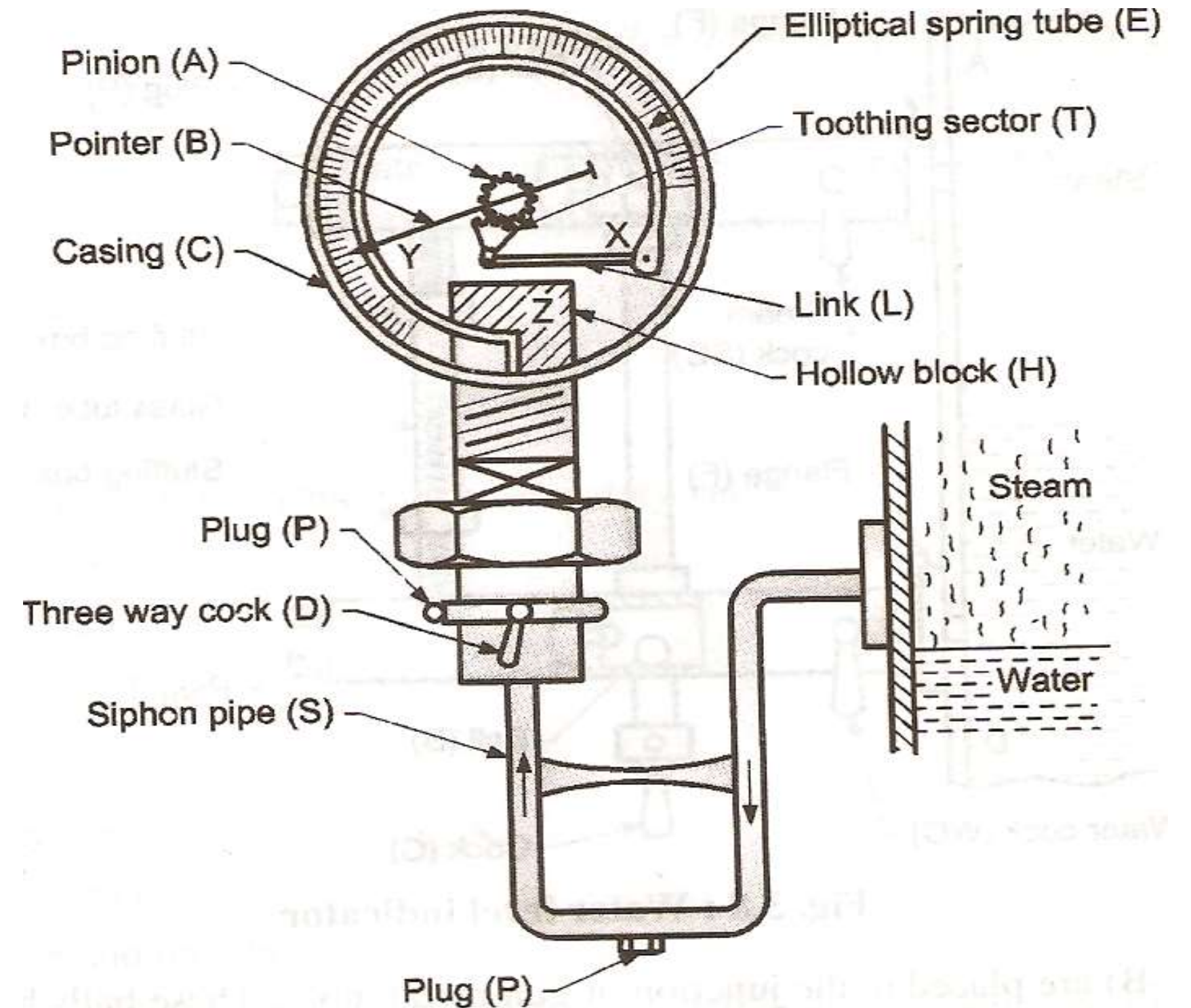


BOILER MOUNTINGS



2. PRESSURE GAUGE (*Bourdon's*) (Dec 05)

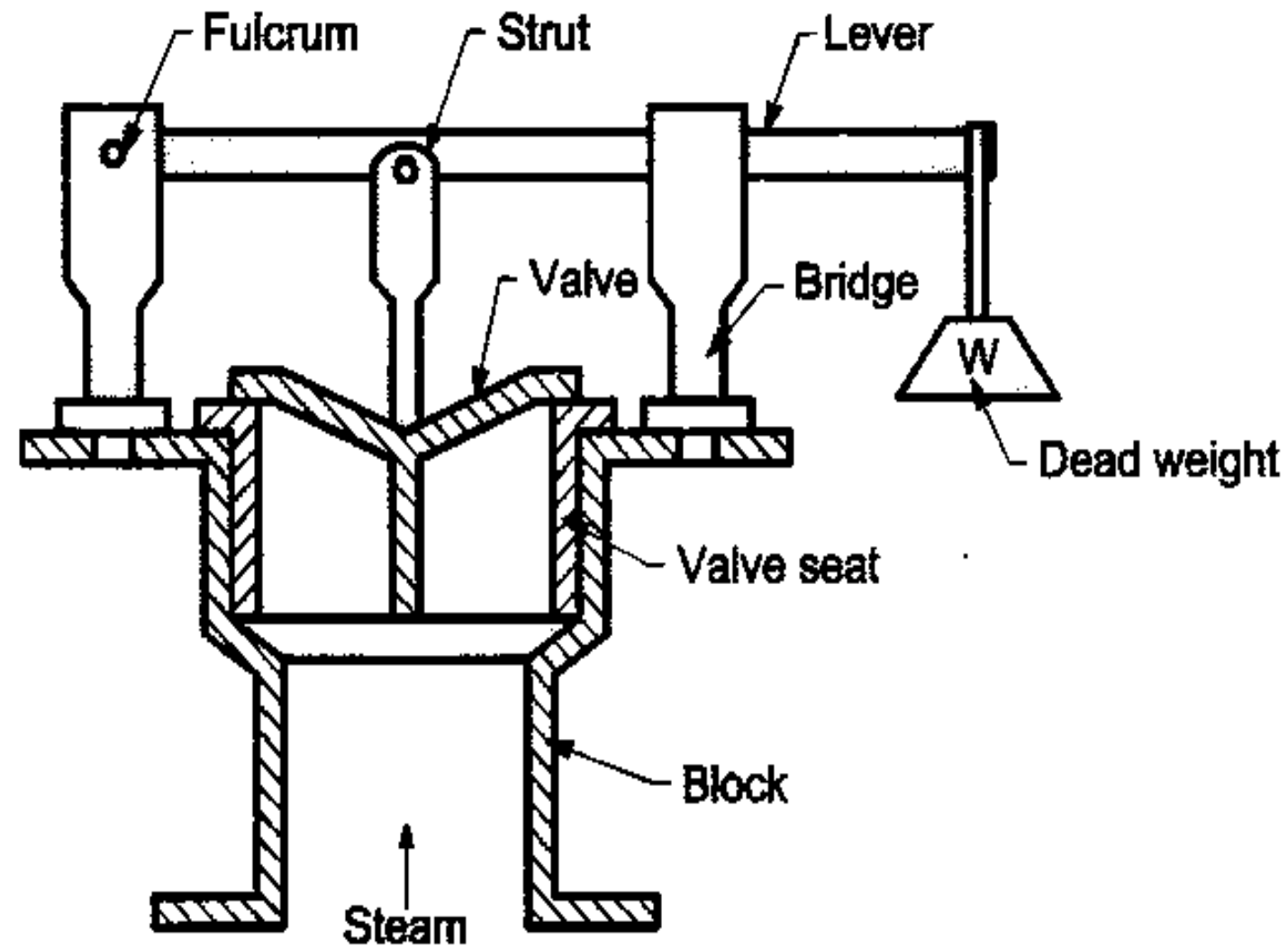
- Records gauge pressure
- Elliptical spring tube is also called Bourdon tube and is made up of special quality Bronze.
- Plug (P) is provided for cleaning the siphon tube.
- Siphon is filled with cold water to prevent the hot steam entering into the bourdon tube and spring tube remains comparatively cool.



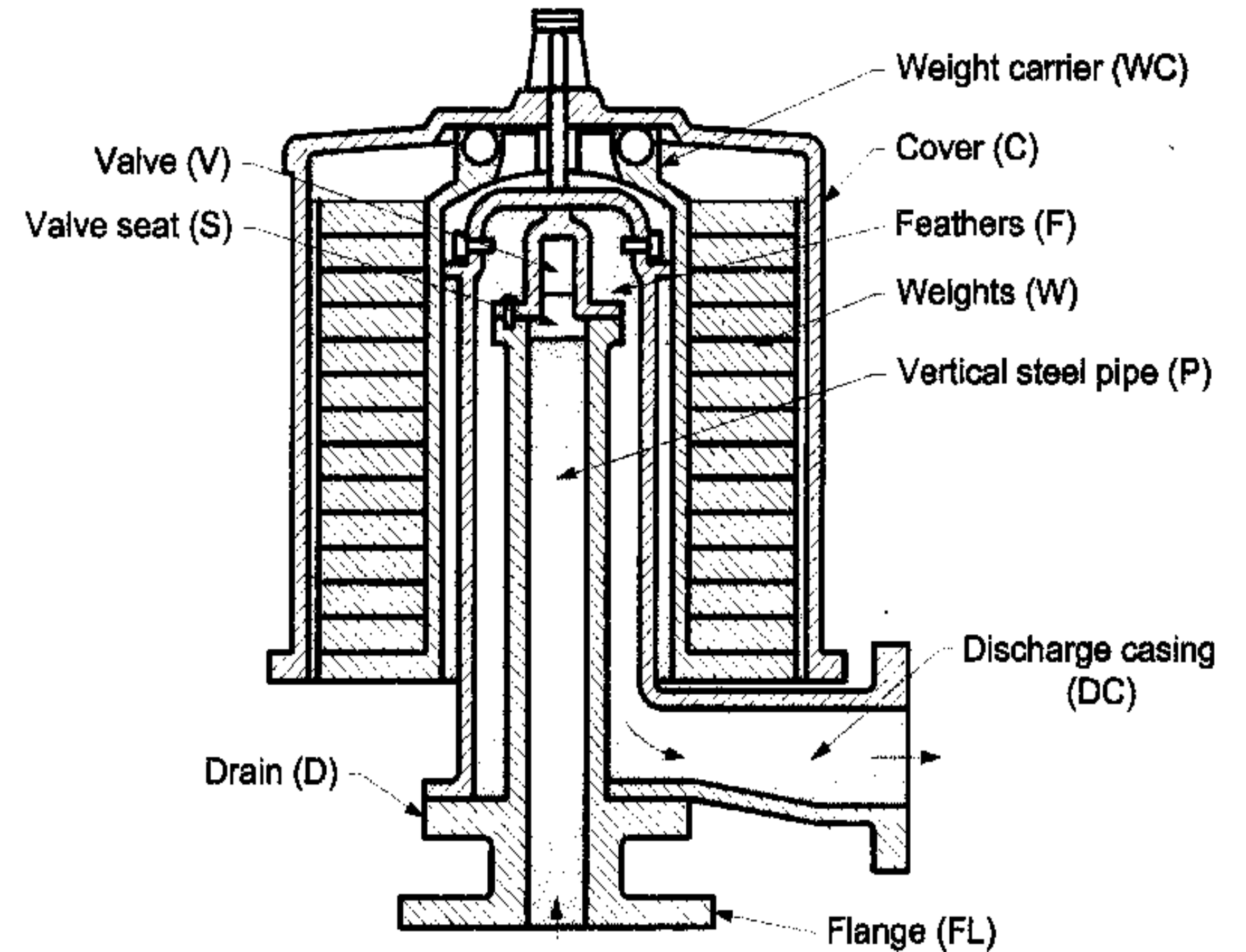


SAFETY VALVES

LEVER SAFETY VALVE



Dead Weight safety valve

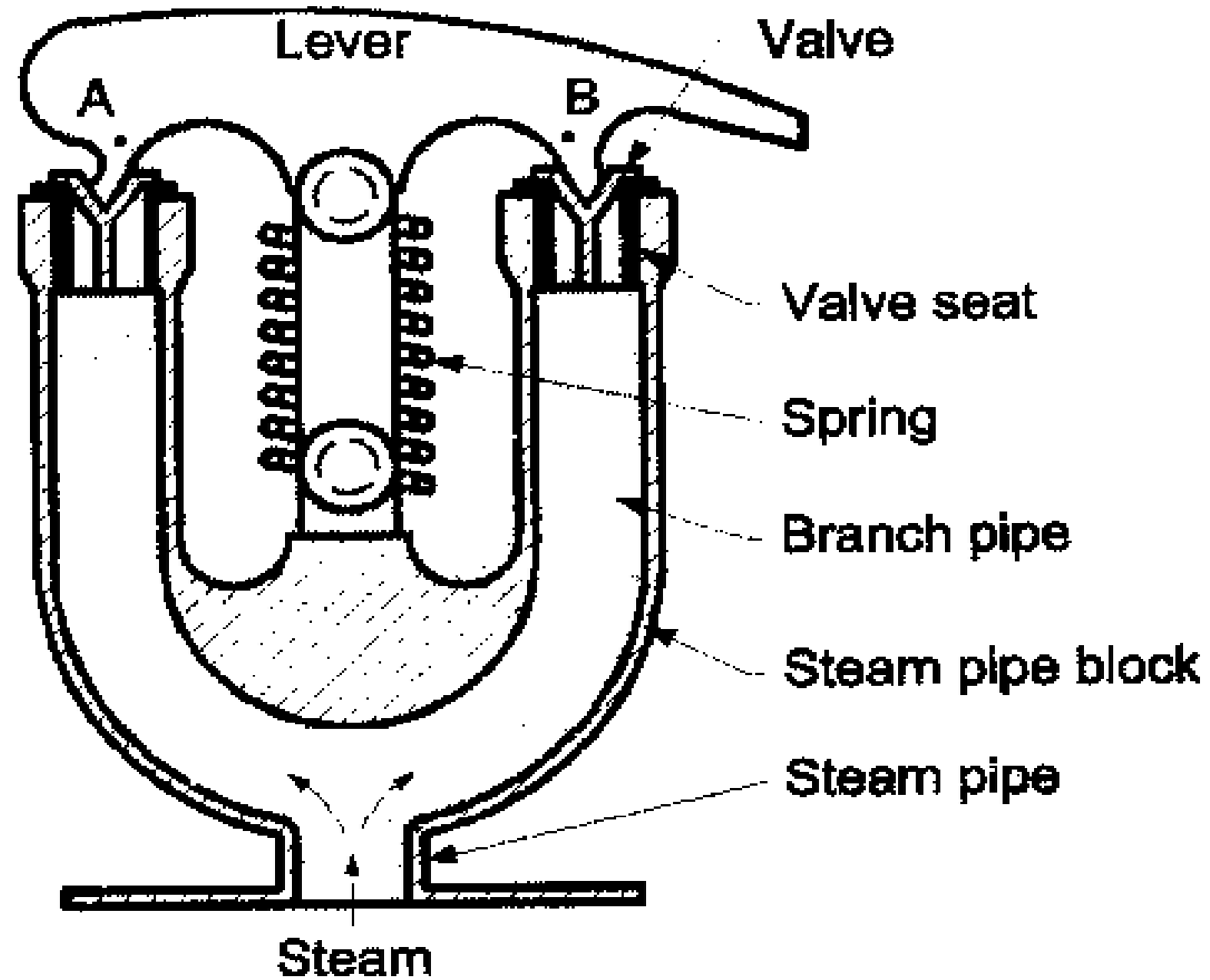




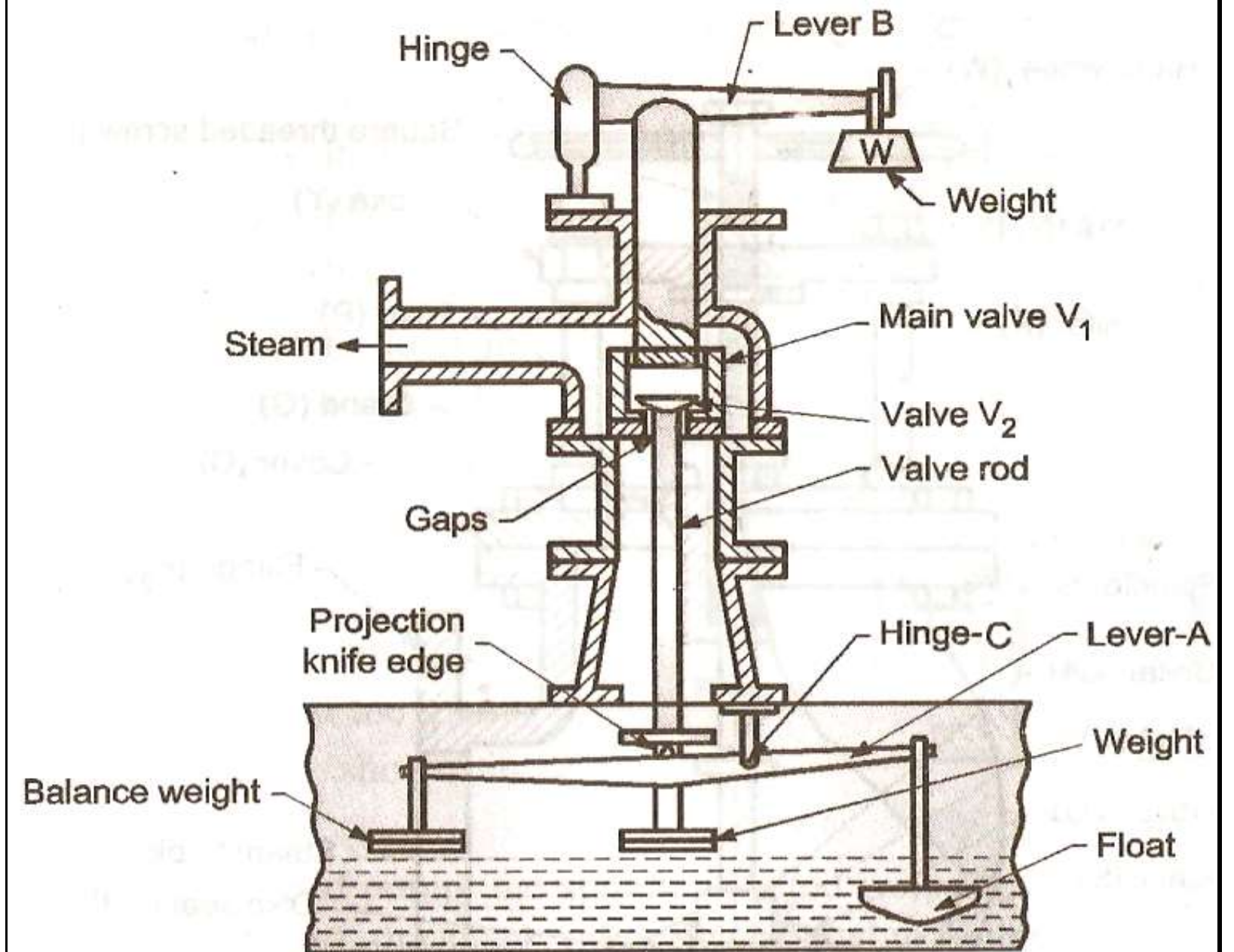
SAFETY VALVES



SPRING LOADED SAFETY VALVE



HIGH STEAM AND LOW WATER SAFETY VALVE





JUNCTION VALVE:

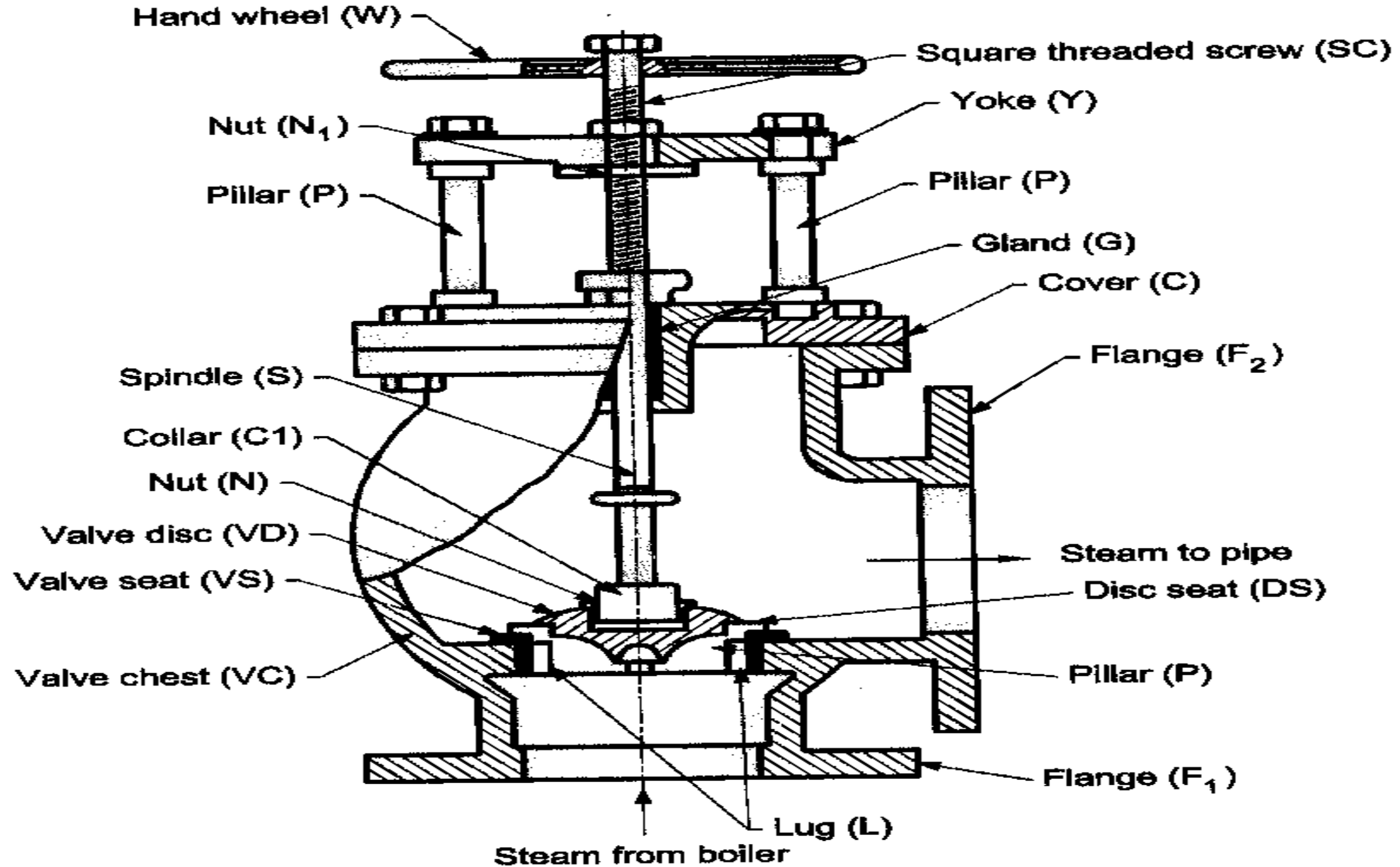
The valve placed directly on a boiler in order to regulate the steam supply from boiler to steam pipe is called the *Junction Valve*.

STOP VALVE:

The valve used to regulate the steam supply from the steam pipe to the prime mover (steam engine or steam turbine) is called *Stop Valve*.

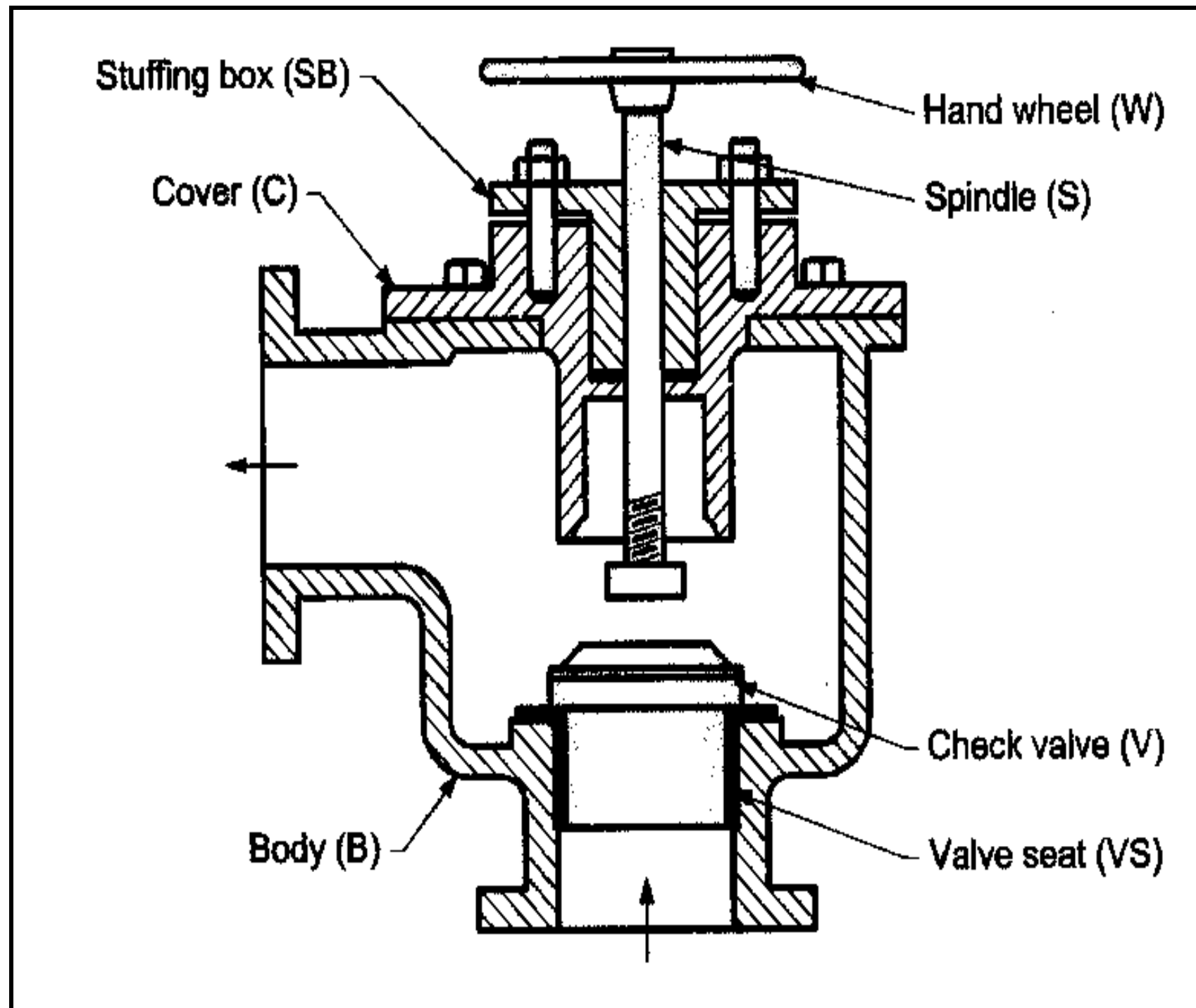


JUNCTION VALVE





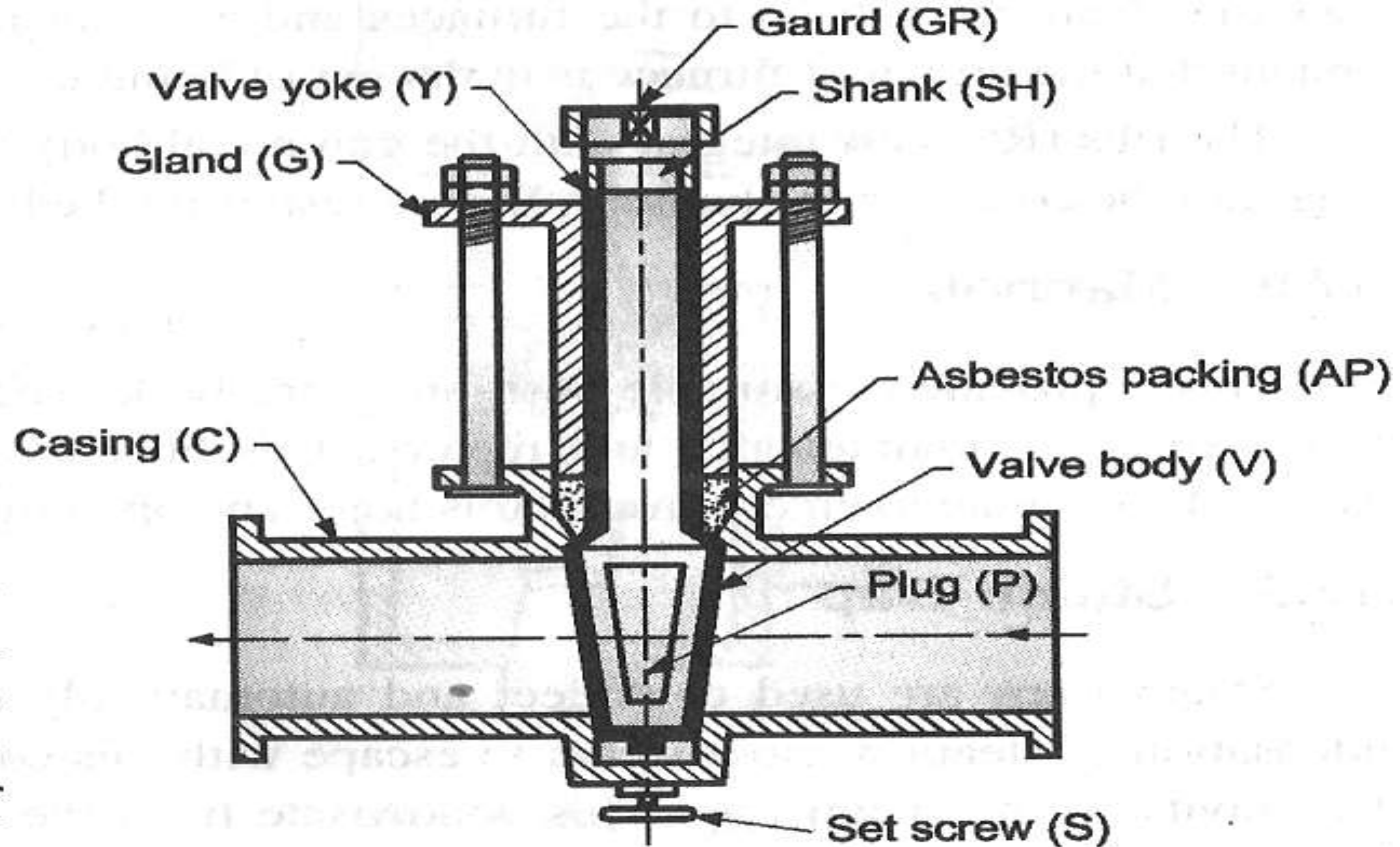
FEED CHECK VALVE



1. Feed check valve works as NRV (Non- return valve).
2. Prevents the back flow of water from the boiler when the feed water pump is either not working or in case of its failure.

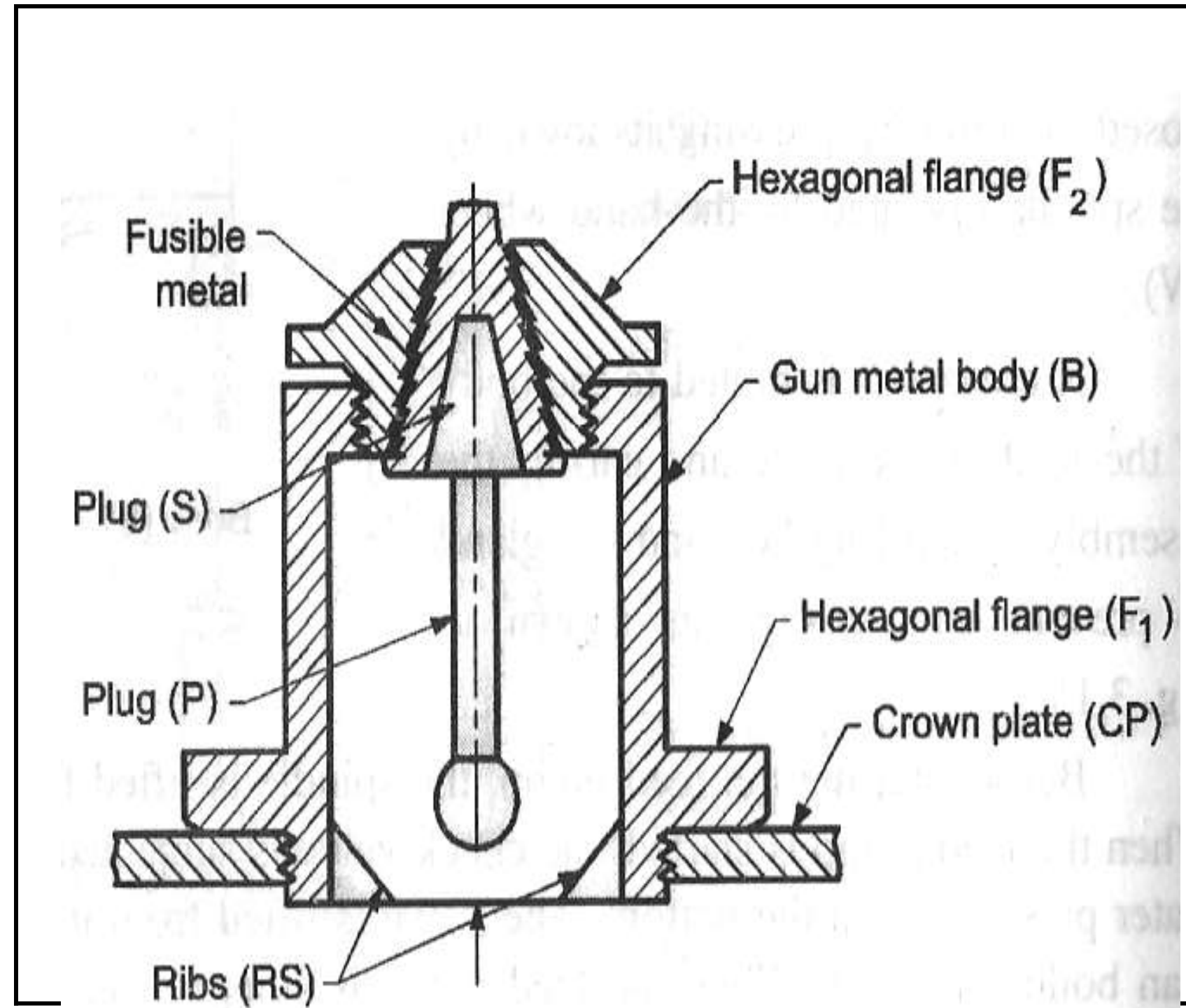


BLOW-OFF COCK





FUSIBLE PLUG



- Plugs P and R are made up of Gun Metal.
- Plug S is made up of Copper.
- Plug R is screwed to the plug P.
- Plug S is locked into plug R by a metal like tin or lead.



Thank You