

## **Fusible plug**

### **Function**

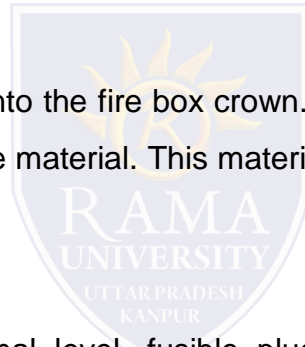
The function of fusible plug is to protect the boiler from damage due to overheating of boiler tubes by low water level.

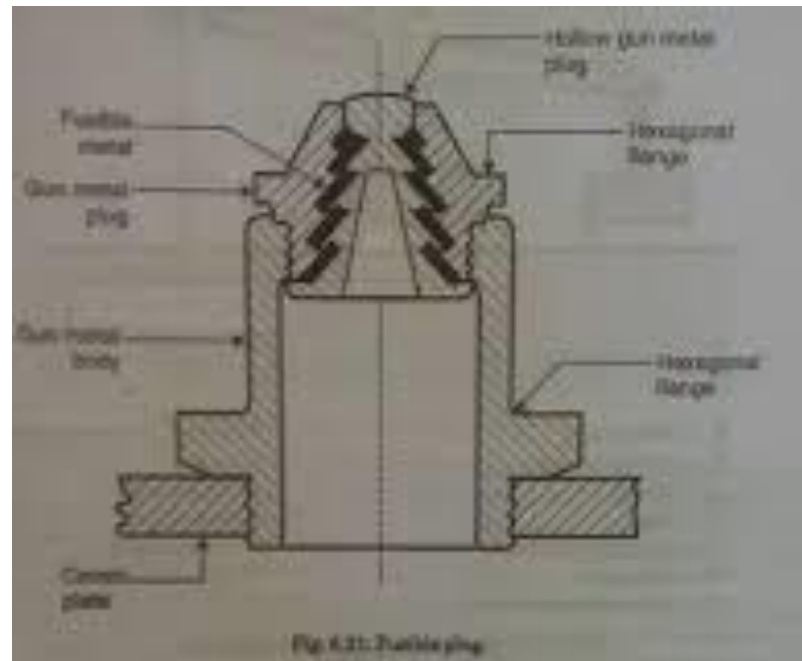
### **Construction**

it is simply a hollow gun metal plug screwed into the fire box crown. This hollow gun metal plug is separated from the main metal plug by an annulus fusible material. This material is protected from fire side by means of a flange.

### **Working**

When the water in the boiler is at its normal level, fusible plug remains submerged in water and its temperature does not exceed its melting temperature, because its heat is transferred to water easily. If under some unwanted condition, water level comes down to unsafe limit; fusible plug is exposed to steam in place of water. On the other side it is exposed to fire. So its temperature exceeds its melting point due to very low heat transfer to steam and it melts down. Immediately steam and water under high pressure rush to the fire box and extinguish the fire.





## **Blow-off-cock**

### **Function**

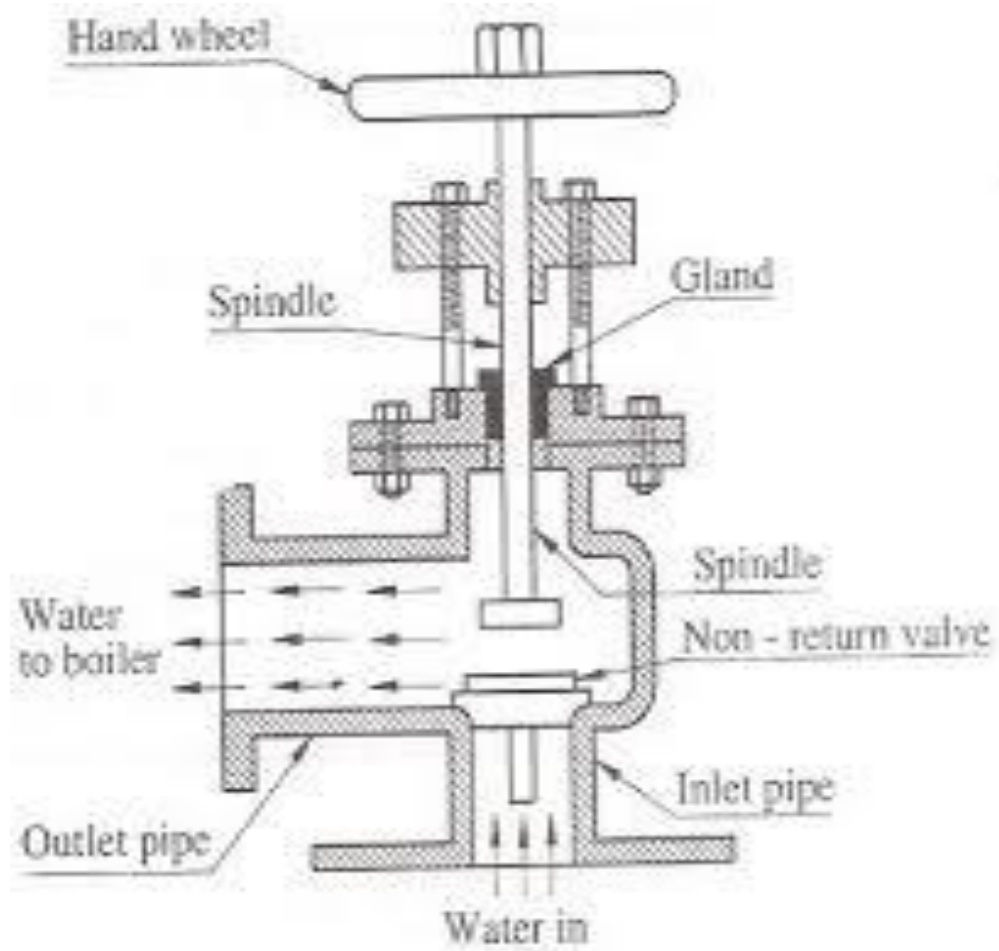
It is a controllable valve opening at the bottom of water space in the boiler and is used to blow off some water from the bottom which carries mud or other sediments settled during the operation of boiler. It is also used to completely empty the water when the boiler is shut off for cleaning purpose or for inspection and repair.

It has a casing having a passage with one side flange to connect with boiler shell. The passage is blocked by a cone shape plug having a cross rectangular hole. Sealing is made with a top and bottom asbestos packing filled in grooves on plug. The shank of the plug passes through a gland and stuffing box in the cover. On the top portion of the shank a box spanner can be fitted to rotate the shank and plug by 90° to either open or close the blow-off-cock. The working is also clearly visible on playing the animation.

## **Feed-check-valve**

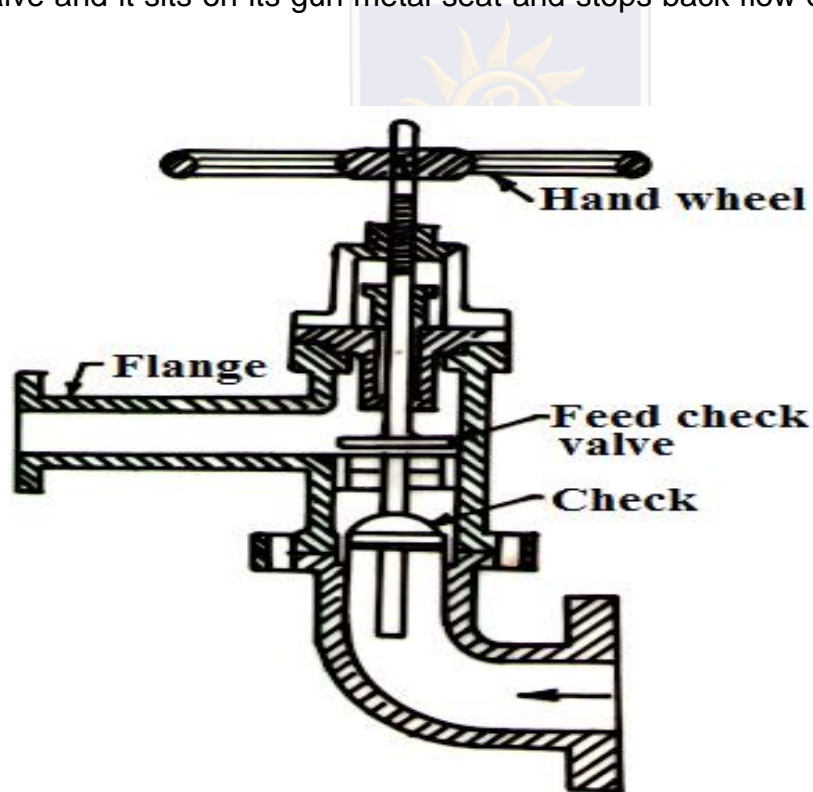
### **Function**

The feed check valve is fitted in the feed water line of the boiler after the feed pump. Its function is to allow the water to flow in the boiler when the discharge pressure of feed pump is more than the inside steam pressure of boiler and prevent the back flow in case the feed pump pressure is less than boiler pressure. Feed check valve is fitted slightly below the normal water level in the boiler.



## Construction

The construction of feed check valve is as shown in fig. In the casing of valve there is a check valve which can move up or down on its seat under the pressure of water. When supply pressure of feed water acting at the bottom of check valve is more, valve lifts up and allows the water to fill in the boiler. When supply pressure drops by stopping of feed pump, the boiler pressure acts on the top of valve and it sits on its gun metal seat and stops back flow of the boiler water out of the boiler shell.





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