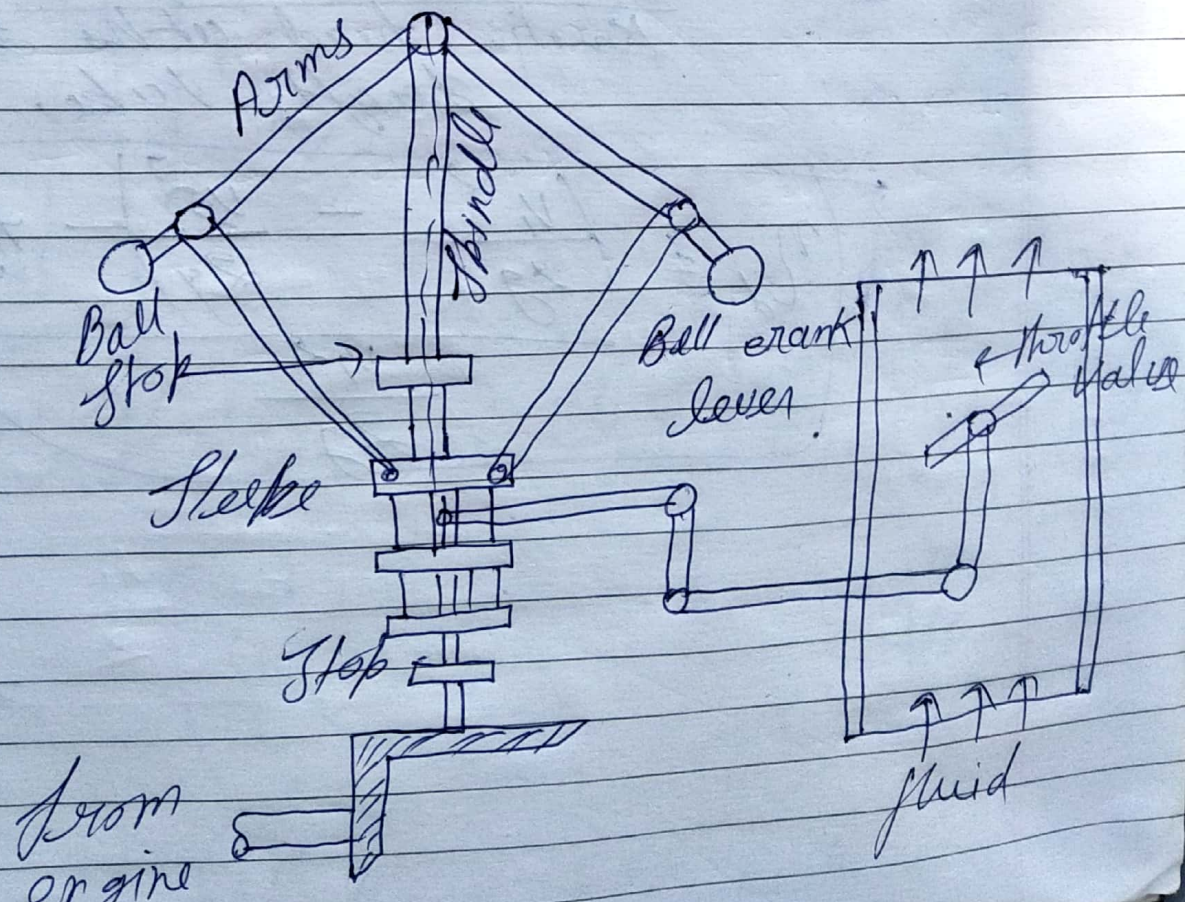
22) (A) Function of governor:→

The function of governor is to regulate the mean speed of an engine, when there are variations in load e.g. when the load on and engine increases, its speed decrease, therefore it becomes necessary to increase the supply of working fluid.

on the other hand when the load on the engine decreases, its speed increase and thus less working fluid is required.



(B) Sensitiveness :-

(1) A governor is called sensitive when it readily responds to a small change of speed.

(2) If

$$N = \frac{N_1 + N_2}{2} = \text{mean speed.}$$

$$\text{Sensitiveness} = \frac{N_2 - N_1}{N} = \frac{2(N_2 - N_1)}{(N_2 + N_1)}$$

(C) Stability :->

(1) Stability and sensitivity are two opposite characteristics.

(2) For a stable governor, the equilibrium speed increase with the radius of governor balls.

(D) Isochronism :-

(1) Isochronous governor is a governor which has a zero range speed. It means the governor has constant equilibrium speed.

(2) However, an Isochronous governor is not practical due to presence of friction.

Classification of Governors

- Governors
  - Centrifugal governor
    - Pendulum type
      - Watt governor
    - Loaded type
      - Dead weight governor
        - → Porter governor
        - → Proell governor
      - Spring controlled governor
        - → Hartnell governor
        - → Hartung gov.
        - → Wilson-Hartnell gov.
        - → Pickering gov.
  - Inertia governor