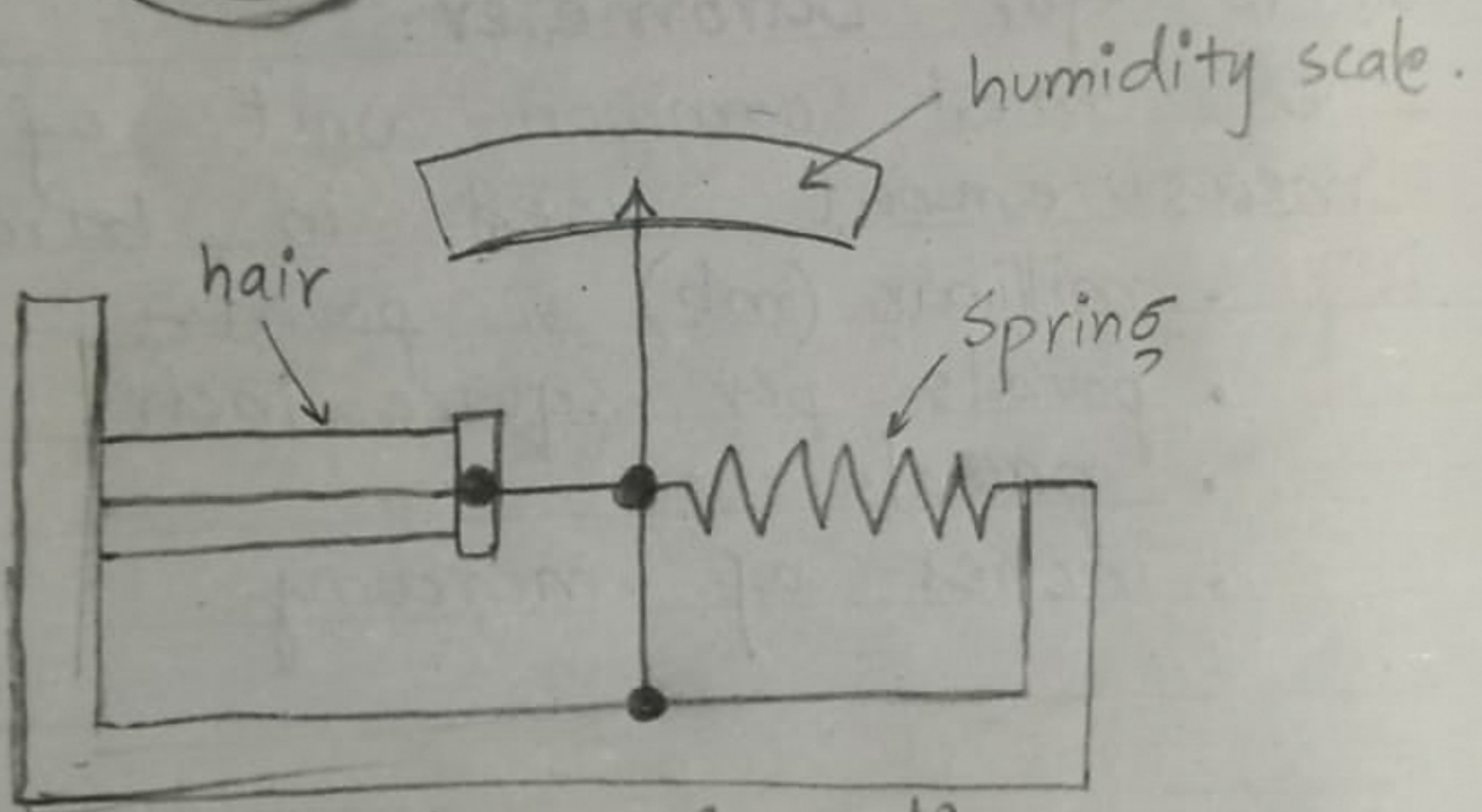
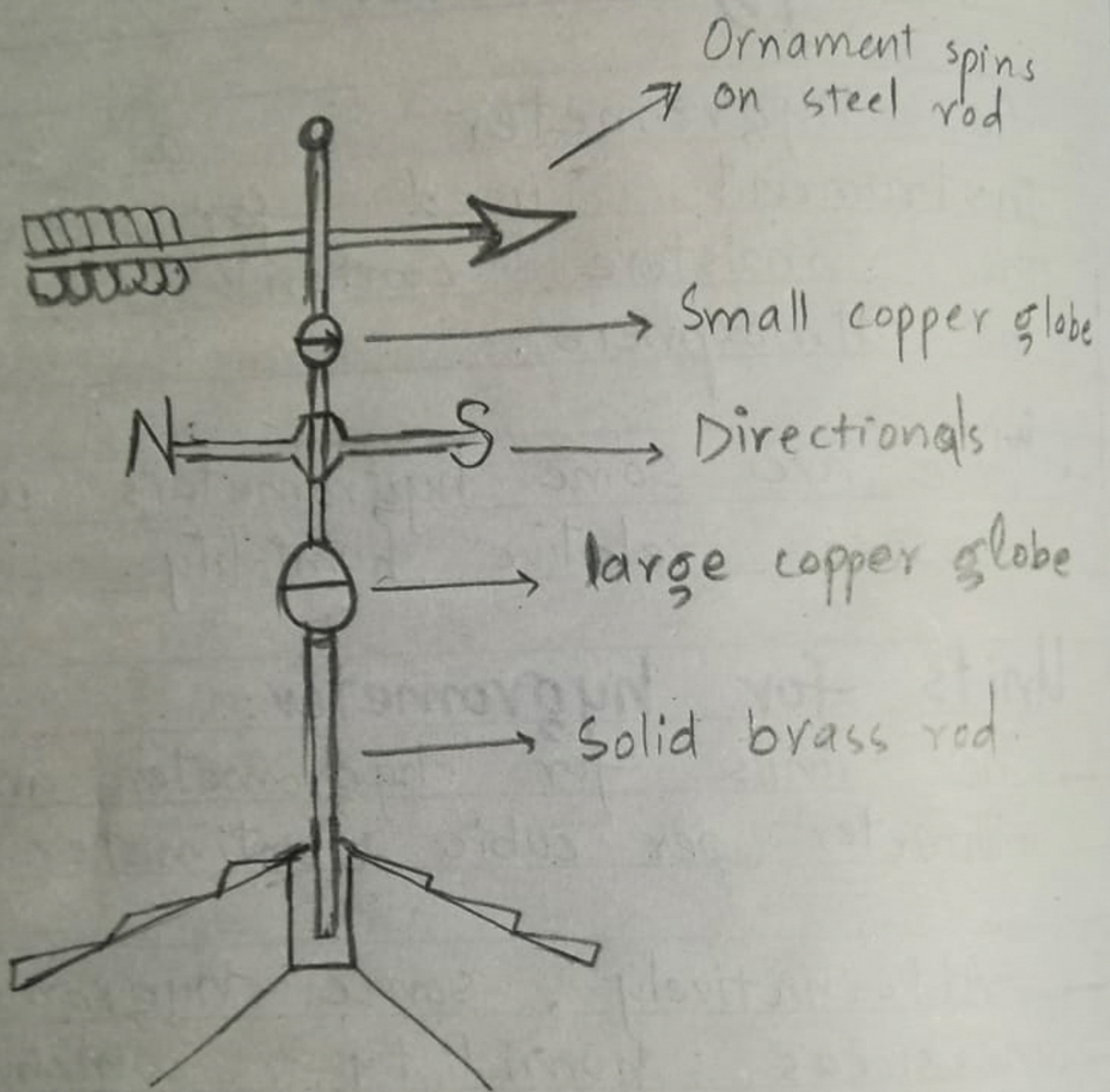


Hygrometer



Schematic diagram

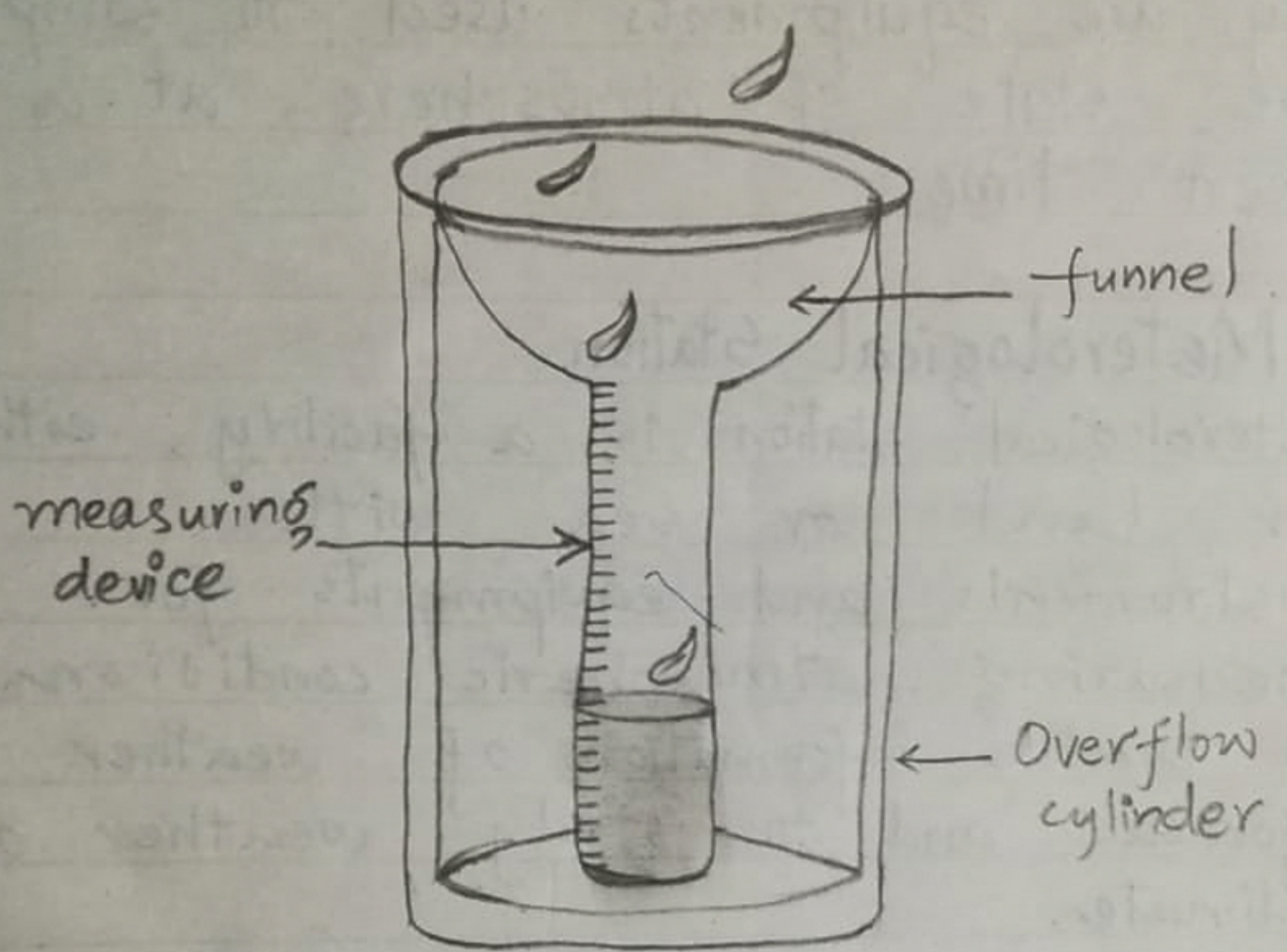




Wind vane.



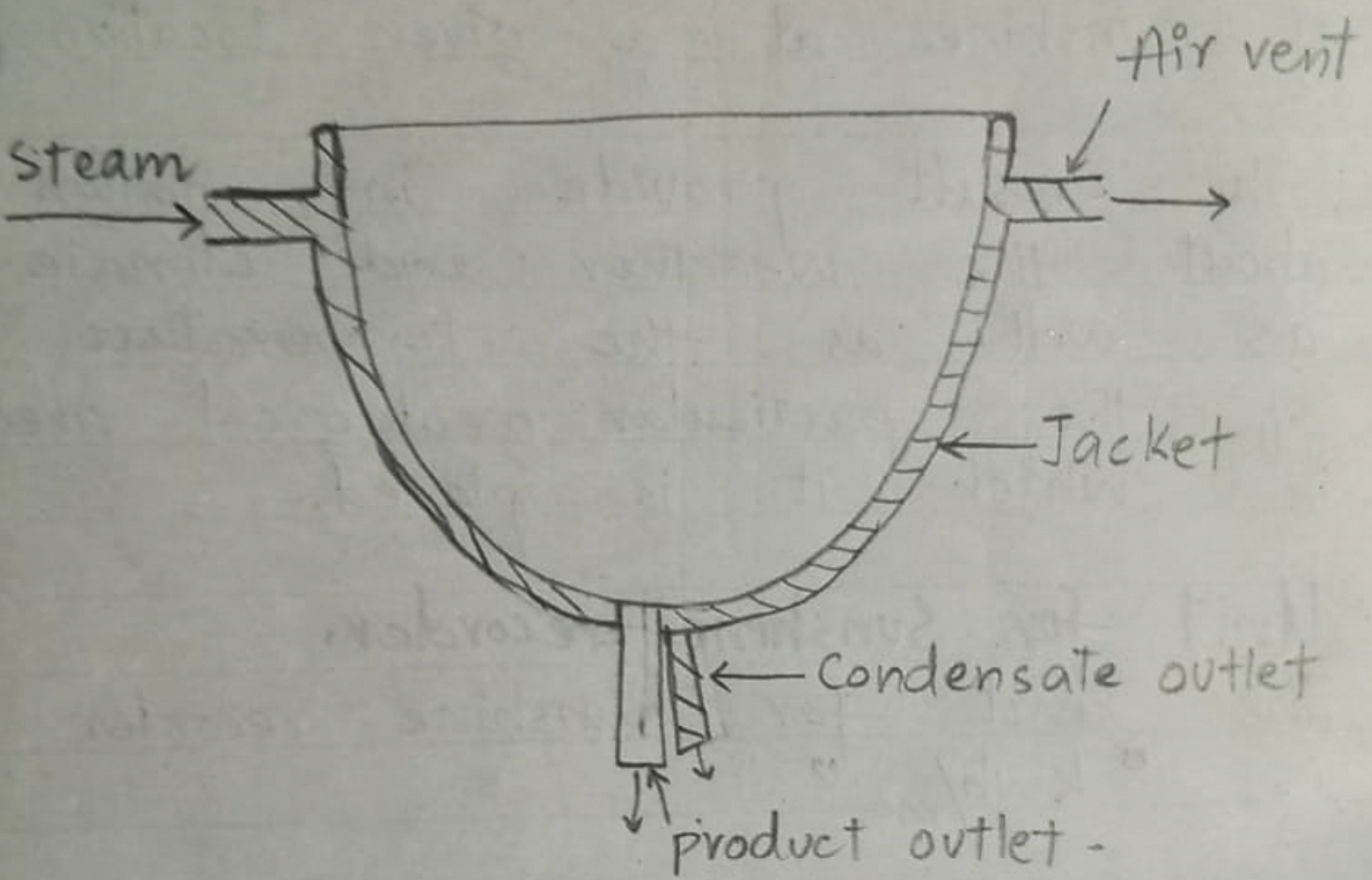
# Meteorological Instruments



Rain gauge.



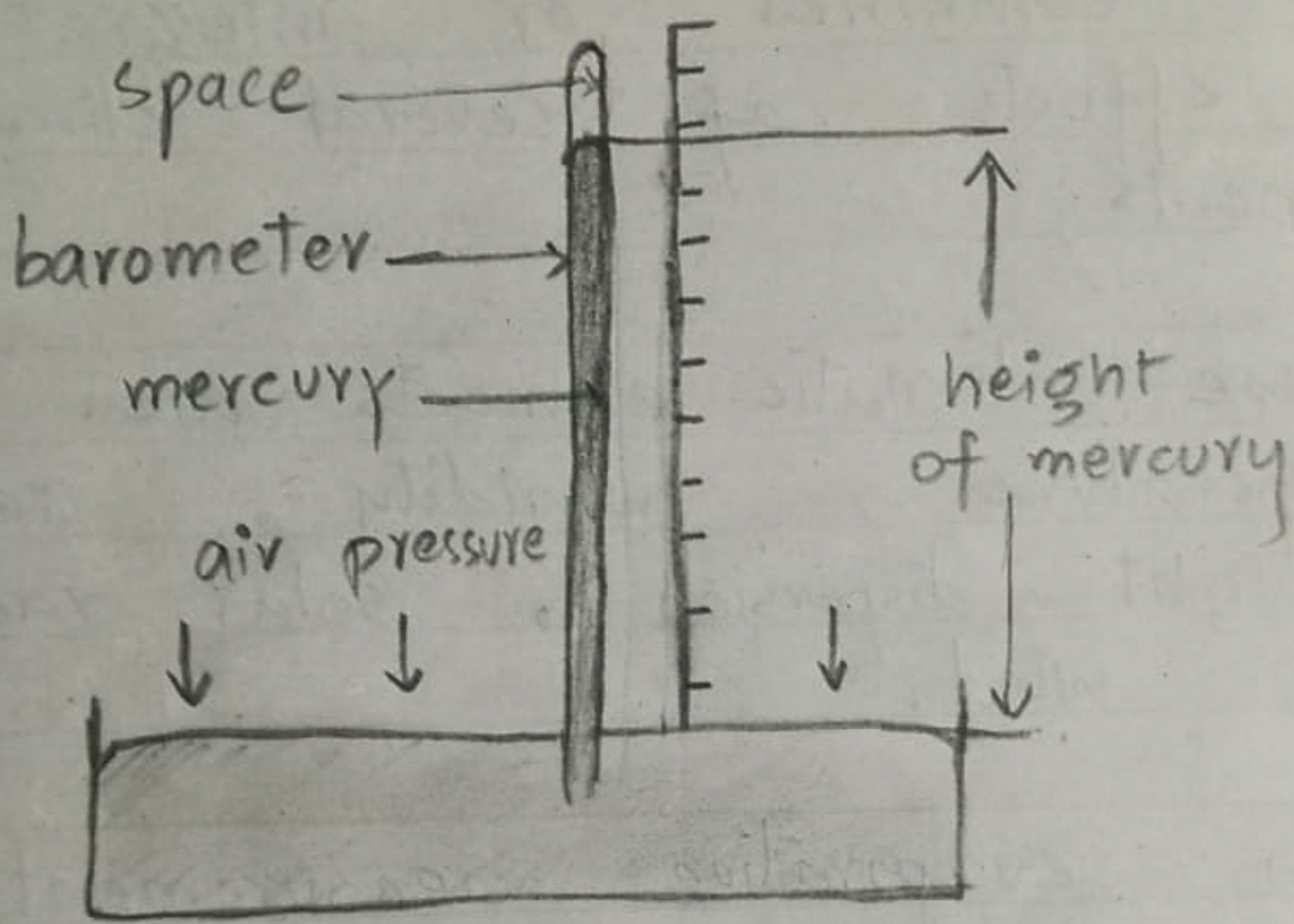
# Sublimation Recorder



## Evaporating pans

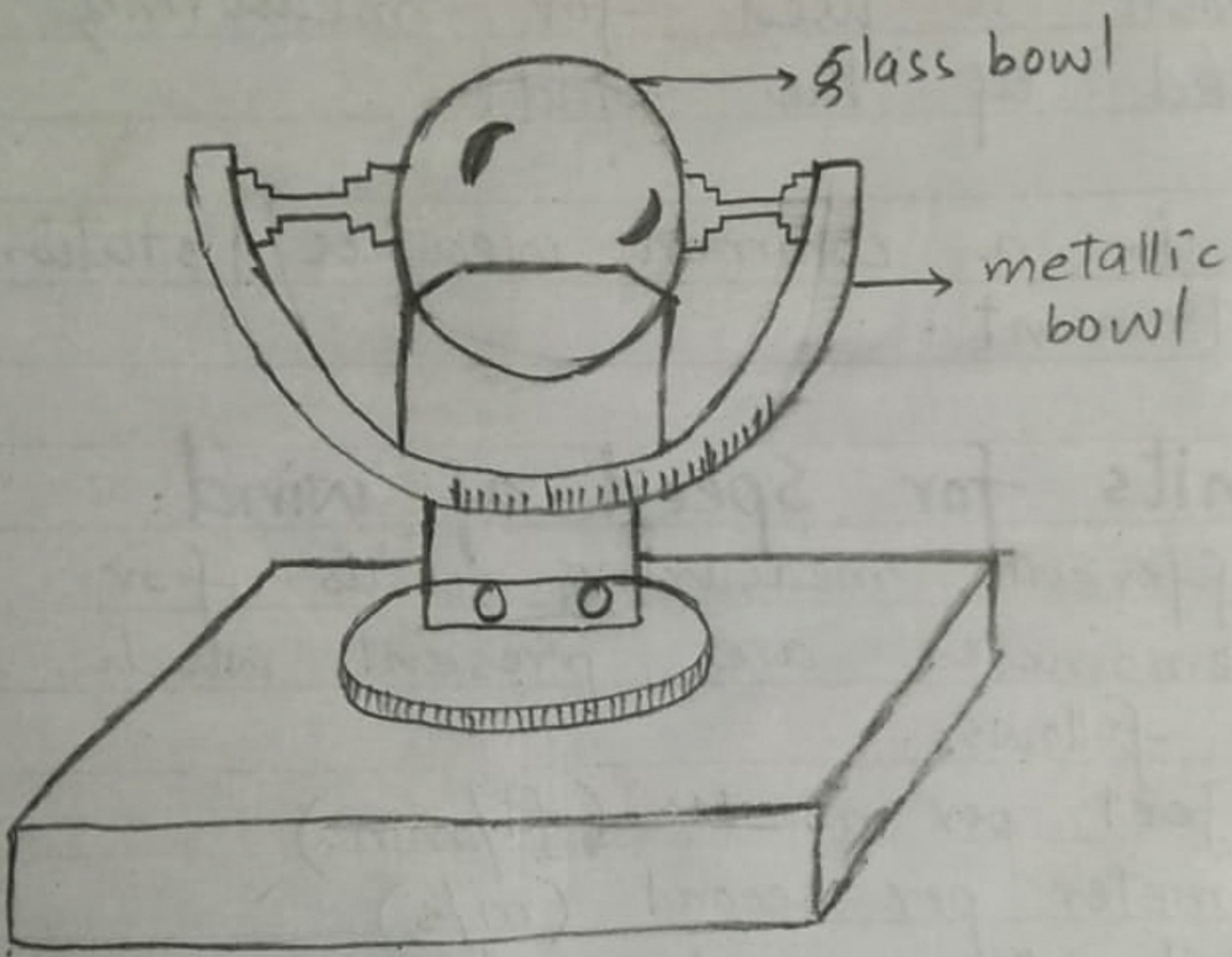


From Evaporation



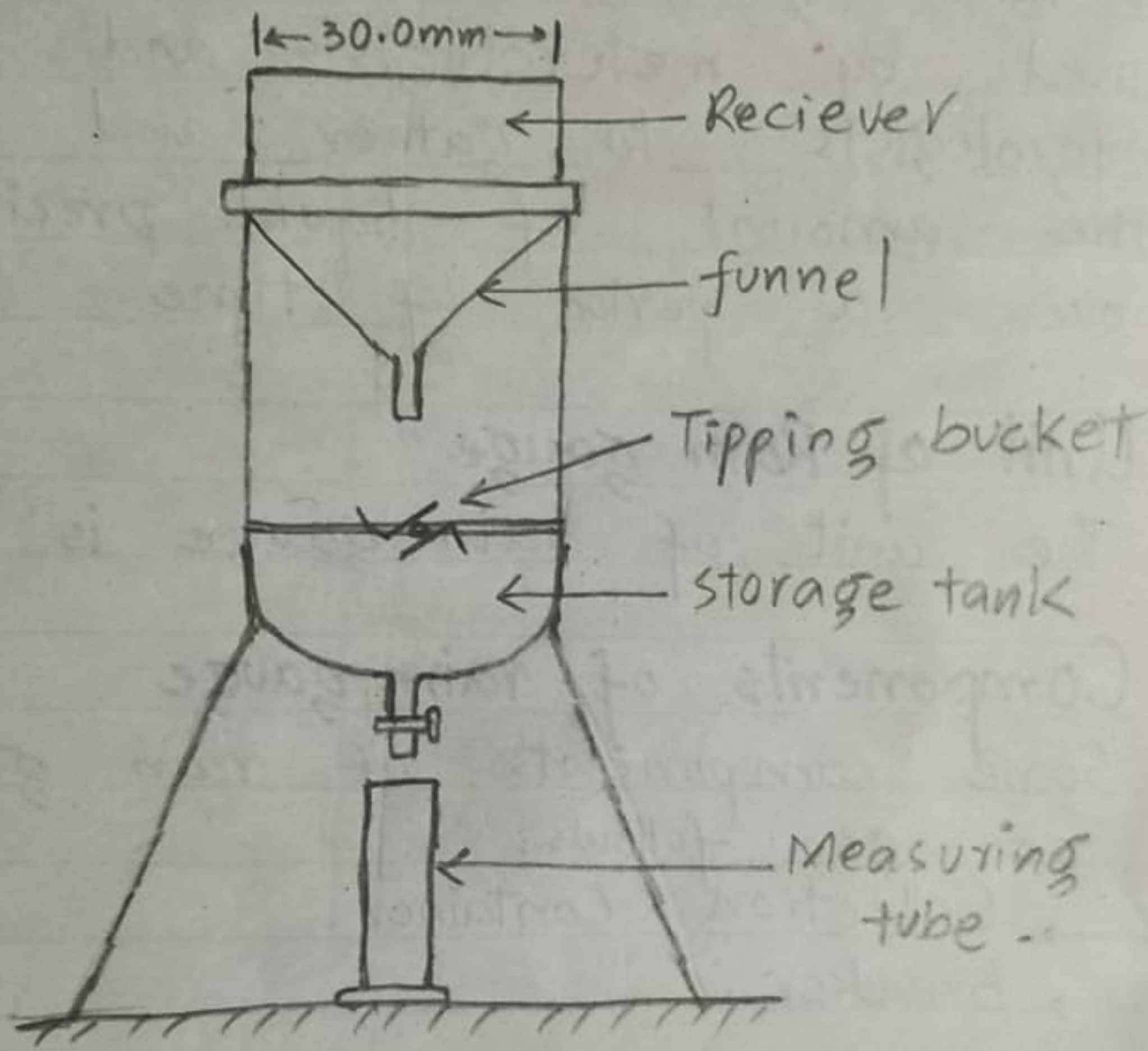
Mercury barometer





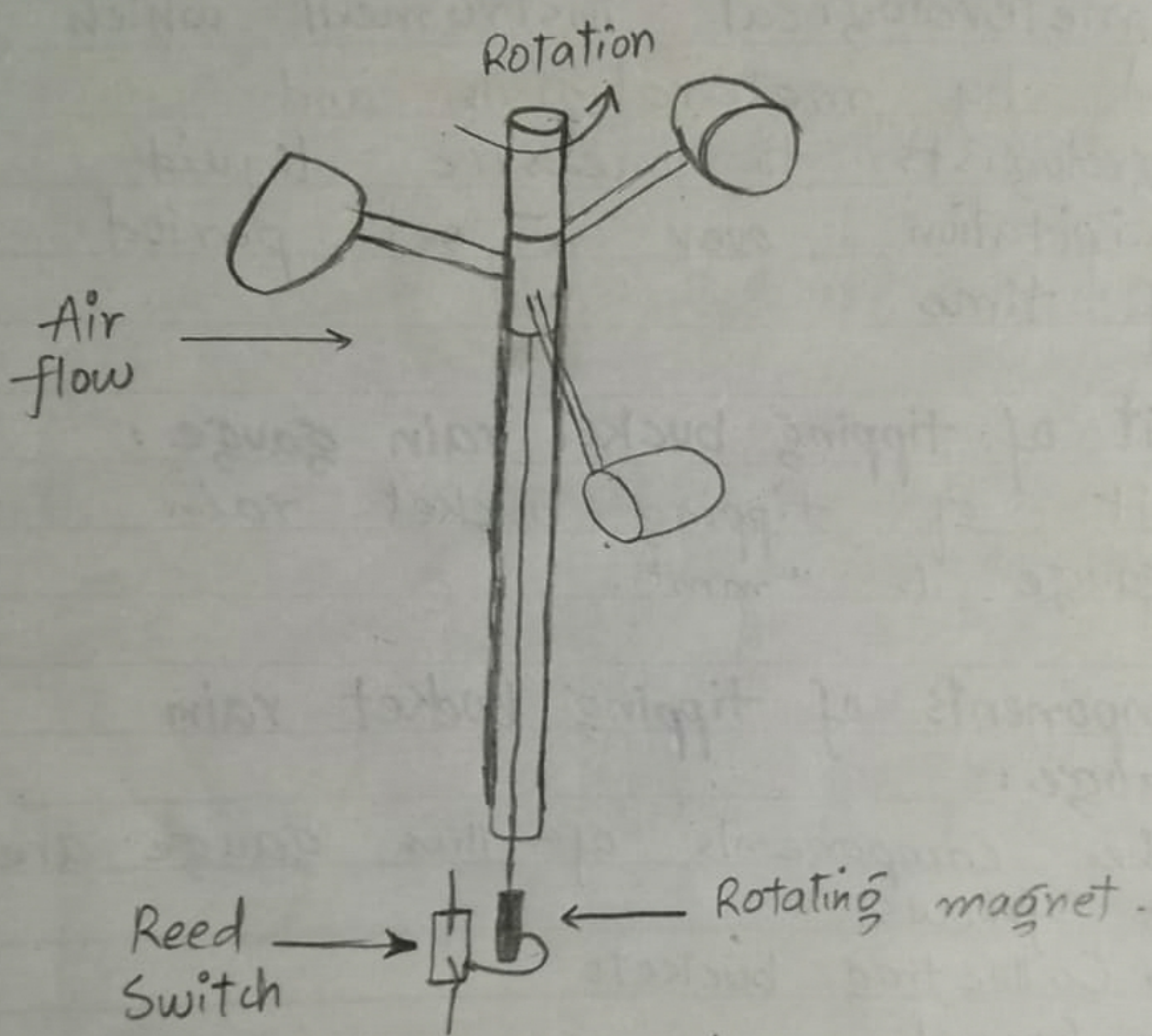
Sunshine recorder





Tipping bucket rain gauge.





Anemometer



## ⇒ Soil Prob Thermometer

→ The soil (temperature) thermometer or soil prob thermometer is suitable for measuring temperature of soil, compost or similar, ideal for horticulturist or keen gardeners.

→ Two forms of mercury in glass thermometer are used for this purpose.

→ A thermometer that has been fused into an outer protecting glass shield is used for measurements at greater depth.

⇒ Unit of or this:  
It is measured in Celsius



## ⇒ Quantum Sensor

→ A quantum sensor is a quantum device that responds to a stimulus.

→ Usually this refers to a sensor which has quantized energy levels, uses quantum coherence to measure physical quantity or uses entanglement to improve measurements beyond what can be done with classical sensors.

## ⇒ Unit for Quantum Sensor

Unit is  $\text{fmol/m}^2\text{s}^{-1}$ .



## ⇒ Wind Vane

→ A wind vane is an instrument for showing the direction of the wind.

→ They are typically used as an architectural ornament to the highest point of a building.

## ⇒ Units for Wind Vane.

→ A traditional weather or wind vane has no units of measure.

→ It has East, West, North, South.

→ It just shows you which direction the wind is blowing.



## ⇒ Barometer

→ A barometer is a scientific instrument used in meteorology to measure atmospheric pressure.

## ⇒ Units for Barometer

→ The most common unit of measurement used in barometers is millibar (mb), pounds per square inch, pascals and inches of mercury.



## ⇒ Hygrometer

→ A hygrometer is an instrument used for measuring the moisture contents in the atmosphere.

→ Some hygrometers measure relative humidity.

## ⇒ Units for hygrometer

→ The units for hygrometer are millimeter per cubic centimeter.

→ Alternatively, some hygrometers measure humidity, which is expressed as a percentage with no units.



## ⇒ Pan Evaporation

- Pan evaporation is a measurement that combines or integrates the effects of several climate elements.
- These climatic elements are: temperature, humidity, rainfall, drought dispersion, solar radiations and wind.
- Pan evaporation measurements enables farmers and ranchers to understand how much water their crops will need.

## ⇒ Unit for Pan Evaporation

- Evaporation is measured by measuring the depth of water.
- Its unit is "mm".



## ⇒ Sunshine Recorder

A sunshine recorder is a device that records the amount of sunshine at a given location.

The result provide information about the weather and climate as well as the temperature of geological area.

## ⇒ Unit for Sunshine Recorder :

The unit for Sunshine recorder is  $\text{kWh/m}^2$ .



## ⇒ Anemometer

→ An anemometer is a device used for measuring the speed of the wind.

→ It is a common weather station instrument.

## Units for Speed of Wind:

Different measuring units of anemometer are present,

- Feet per minute (ft/min)
- meters per second (m/s)
- kilometer per hour (km/h)
- miles per hour (mph)
- nautical miles per hour (knots)
- beauforts.



## ⇒ Tipping Bucket Rain Gauge

A meteorological instrument used by meteorologists and hydrologists to measure liquid precipitation over set period of time.

## Unit of Tipping Bucket Rain Gauge

The unit of tipping bucket rain gauge is "mm".

## Component of Tipping Bucket rain gauge

The components are as under :

- Collecting Buckets
- Funnel
- Bucket Tips



## ⇒ Rain Gauge

A rain gauge is an instrument used by meteorologists and hydrologists to gather and measure the amount of liquid precipitation over a set (of) period of time.

## Unit of Rain Gauge

The unit of rain gauge is "mm".

## Components

Some components of rain gauge are as under:

- Collection Container
- Breaker



## Meteorological Instruments

The are equipments used to sample the state of atmosphere, at a given time.

## Meteorological Station

Meteorological Station is a facility, either on land or sea, with instruments and equipment for measuring atmospheric conditions to provide informations of weather forecast and to study weather and climate.

## Various Instruments

Various meteorological instruments are:

- Manual Rain Gauge.
- Tipping Bucket Rain Gauge.
- Hygrometer.
- Sunshine Recorder.
- Pan evaporation.
- Anemometer
- Quantum Sensor.
- Barometer
- Soil Prob thermometer.