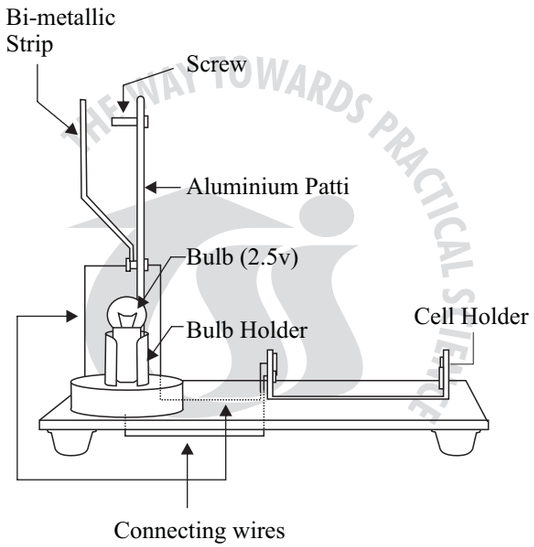
HEAT SWITCH

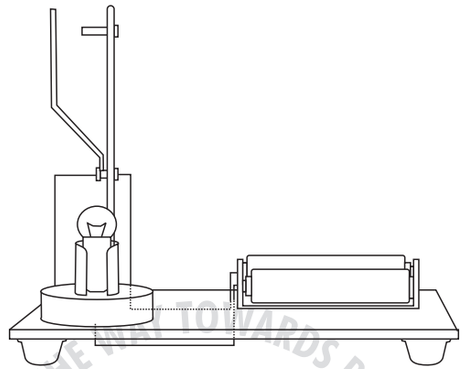
Light the bulb by heating the bi-metallic strip.

Assembly :

Consists of a aluminum patti, bi-metallic strip, a bulb holder with 3v bulb and a two dry cell holder plastic assembly. All are connected in series and fixed on a clear plastic base. A small screw is fixed at the top of the aluminium strip, which is usefull in make and break of the circuit.

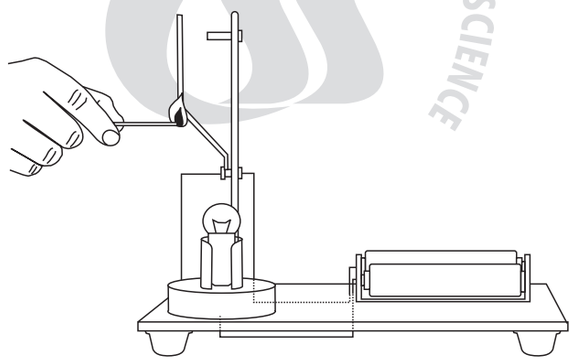


To do and observe :



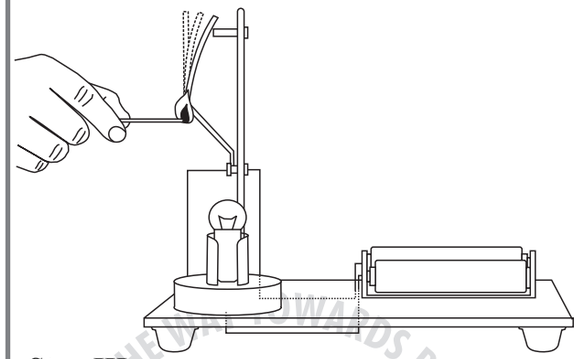
Step-I

Insert two pencil cells in the cell holder. You will notice that the bulb does not glow.



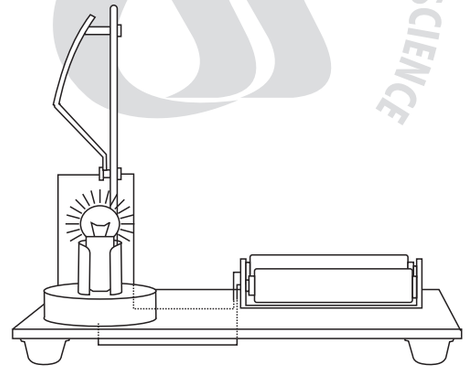
Step-II

Start heating the bi-metallic strip by using the match stick.



Step-III

Bi-metallic Strip starts bending. Heat it until it touches the screw which is infront of it and fixed at the top of the aluminum patti.



Step IV

Put off the match stick as soon as the bi-metallic strip touches the screw and will notice that the bulb starts glowing

Step V

After some time the bi-metallic strip starts cooling and breaks the contact with screw. As a result the bulb is switched off.

What is going on?

When you heat the bi-metallic strip, as a result of dis-similar expansion it bends. Therefore it comes in contact with the screw fixed at the top the aluminium patti. When bi-metallic strip makes contact with screw, the circuit is completed and therefore the bulb glows. If you stop heating the bi-metallic strip gets cooled and therefore it will move back to its initial position. Because of this the bi-metallic strip moves away from the contact of the screw. As soon as the bi-metallic strip moves away from the screw, the circuit becomes open. Therefore the bulb is switched off.

THE WAY TOWARDS PRACTICAL SCIENCE

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Heat Switch

TARANG SCIENTIFIC INSTRUMENTS
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