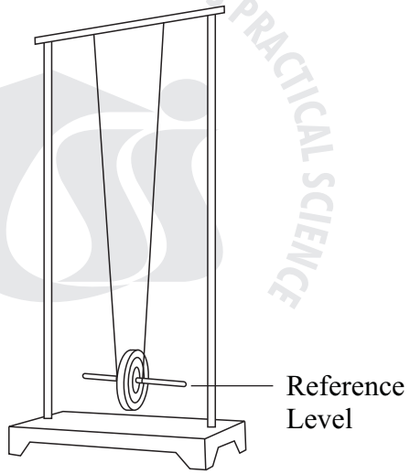
CONSERVATION OF ENERGY

Conversion of potential energy into kinetic energy and vice versa.

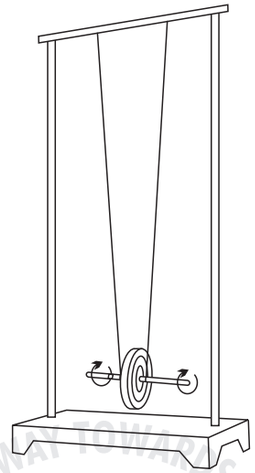
Assembly :

Consists of a metal fly wheel with an axle. This wheel with axle is suspended to a metal frame using thread. It is suspended in such away that, in its full length, it is just above the metal base and does not touch the metal base.

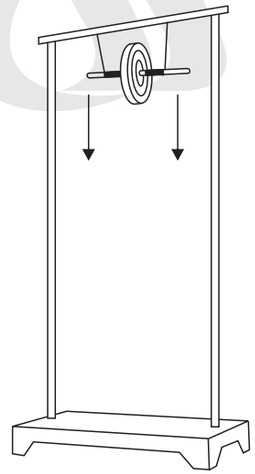


Wheel at rest

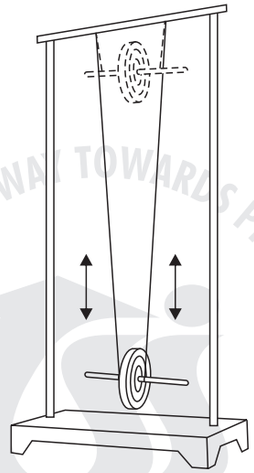
To do and observe



Roll up the wheel



Leave it



Wheel rolls up & down

What is going on?

When you roll up the wheel, you will be doing work on it. The work done by you, in taking it to the higher position from the reference level will be stored in it in the form of potential energy. When it is at the top, it will be at its maximum height and will be having maximum potential energy. Once you leave it, its potential energy gets converted into kinetic energy. Therefore it rolls down. When it reaches its lower position, it has rotational inertia, it continues to rotate. Hence it rolls up by winding the thread on the axis. Now Kinetic energy gets converted into PE. So this conversion of P.E. to K.E. and K.E. to P.E. goes on. Due to frictional resistance the height reached by the wheel goes on decreasing every time and finally comes to rest.

THE WAY TOWARDS PRACTICAL SCIENCE

TARANG SCIENTIFIC INSTRUMENTS

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