ABSTRACT

The project is about design and development of a solar panel cleaning machine. Solar energy is the abundant renewable energy on earth which doesn't pollute the environment while producing the energy using solar panel .The efficiency of solar cells is reduced by 3-6% each year, and the same problem occurs in the Middle East countries with a lot of dust. Efficiency of the panels depends on the amount of light falls on it. Due to the azimuth angle of solar panel,deposition of dust on panels reduces the efficiency of the energy generated. To increase the efficiency of the panel, Cleaning should be done periodically. Usually cost of cleaning the solar panel cleaning is costly. The use of fresh water to avoid the deposition of salt particles on panel which also reduces the production rapidly. Also, the salt water will form residues in the upper layer of the solar panels. To avoid it fresh water is used. But the Cost of obtaining fresh water is very high and it may cause water scarcity across the region. The main objective of this design is to clean the solar panel using an hydraulic mechanism, such that efficiency or quality of solar panel is not compromised. If task is performed manually, it will be very costly and time consuming. Water sprinklers and a special wiping material shall be used in the conceived mechanism design to ensure quality of cleaning .