

2014 年臺灣國際科學展覽會 優勝作品專輯

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| 參展科別 | 工程學 |
| 作品名稱 | The new engine |
| 得獎獎項 | 二等獎 |

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Abstract

The aim of this project is to eliminate the huge consumption of petrol in the field of transportation. This project will be based on the creation of an engine. It is not only economic but also, it does not pollute the environment. In order to think about the scientific strategy of this engine, I had a look at the work of many previous inventors who worked on a similar engine. But the engine I fabricated has as additions:

- The use of clean energies (air, electrical energy and electromagnetic energy)
- It is an engine the energy of which is renewable and it does not necessitate the intervention of man to give it energy .THIS MEANS THAT IT WORKS ALONE.

My Work is based on many steps:

The shape of the engine piston.

It is an opposed piston which has the form of a butterfly.

In addition to this, the (cylinder) is covered with a coil constituted of two different wires: copper wire and iron wire.

The copper wire serves as the coil which will play the role of the generator thanks to the movement of the piston (magnetic head) in the coil.

The coil turns of iron which plays the role of a bad conductor increases the resistance .As a result, the temperature arises in the cylinder.

The functioning of the piston

The admission of air in the initial valve towards piston 1 causes the compression of the air in the first part which called: room N°1

As soon as its arrival to the boundary of the cylinder, the compressed air will move towards the second part which called: room N°2 of the other opposed piston.

This latter will move in the opposite direction (of piston 1) by means of two stems controlled by the two levers.

The current flow in the coil creates a magnetic field .The piston with magnetic head and the coil repel each other because of difference in load sign.

This repulsion creates an enormous magnetic field which prevents air from escaping into its ends.

Also, I tried to find a good compressor called a "screw compressor" which assures an important quantity of compressed air. It is powered with a rechargeable lithium battery (for one hour of charge it functions for 2 hours), It is effective as a battery. It is loaded with the aid of a wind system and also with the aid of an excess in electricity caused by the movement of the piston in the coil.

Special air tank

With the help of a special air tank, we can reserve a quantity of air necessary for engine operation.

In conclusion, this engine will represent a true revolution in the world of energy conservation, environmental and automotive. 3D simulations and the first prototype will be interactive tool to attract the attention of visitors at exhibitions.

評語

極思創新以綠色能源(空氣、電、磁)驅動的引擎以改進生活是本作品的特色，作品亦完整呈現作者之構想，是件優良作品。