

# Design and fabrication of magnetic tricycle for disabled people

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*Abstract*— we people see lots of disabled people in our day to day life, so we have developed the magnetic tricycle especially for handicapped person. Magnetic tricycle will help to reduce the fatigue of the handicapped person. All the design specification considered after analysing the problems based on the handicapped person. The comfort of the person in the tricycle is an important factor and we have given importance to it. The main content of the tricycle is a pair magnets and brake systems. This project will able to help the patients and physically handicapped people in such a way that user friendly type. Moreover it will increase the confidence level of the disabled persons. In short, our project is society centred concept for all under medical care.

*Keywords*— *Tricycle ;magnets; disabled people ;handicapped*

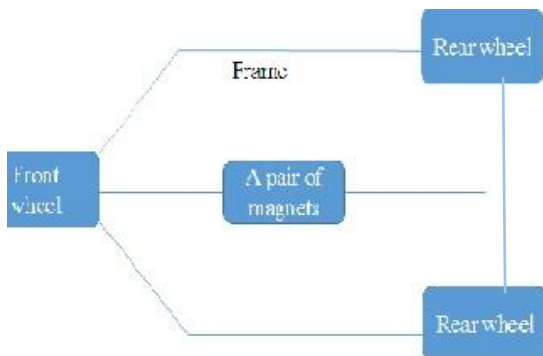
## I. INTRODUCTION

The health of people in a country make it as a wealthy country. In our country there is a lots of people with disabilities.so it slow down the growth of our country.by boosting the person with disabilities means of increase the efficiency of disabled people using equipment and vehicles. For reducing the effort of them is need to make electric or

hybrid type fuel using vehicles or equipment. There is many types of energy such as solar, geothermal, thermal, nuclear energy etc. . . these energies are used to make electricity. But the cost of electricity generation is high that's why now the fast growing world is need to find another source of energy in soon. Now a days the renewable energy sources are almost used and the amount of the source is reduced a lot. In our project we are not use these types of energy anymore by using of magnetic energy drive the tricycle.

We people see lots of disabled people in our day to day life, so we have developed the magnetic tricycle especially for handicapped person. Magnetic tricycle will help to reduce the fatigue of the handicapped person. All the design specification considered after analysing the problems based on the handicapped person. The comfort of the person in the tricycle is an important factor and we have given importance to it. The main content of the tricycle is a pair magnets and brake systems. This project will able to help the patients and physically handicapped people in such a way that user friendly type. Moreover it will increase the confidence level of the disabled persons. In short, our project is society centred concept for all under medical care.

## II. METHODOLOGY



## III. OBJECTIVE

The objectives of developing such a tricycle are mentioned below:-

- To reduce the human effort used for riding the tricycle.
- To give space for carrying goods.
- To provide Comfortable sitting arrangement.
- To reduce the use of electricity.

## IV. COMPONENTS DESCRIPTION

There are some important components used in this project are given below

- 1) Wheel
- 2) Foot rest
- 3) Wheel rims
- 4) Neodymium magnets
- 5) Frame

### 1. WHEEL

In our model tricycle we use three wheels have the dimension of **Wheel Diameter 24"x 1 1/2"** **Tyre and Tube**. This is used for the movement of the vehicle. Here one front wheel and two rear wheels are used. The distance between the rear wheels approx. 622mm.



Fig: Wheel - structure

### 2. FOOT REST

There is a footrest for placing the legs. The height of the footrest from the datum is 140mm. This footrest is very much helpful for the people who use the tricycle.



Fig: Footrest

### 3. WHEEL RIMS

- Wheel rims for the tricycle shall be of size 28 inch x 1.5 inch.

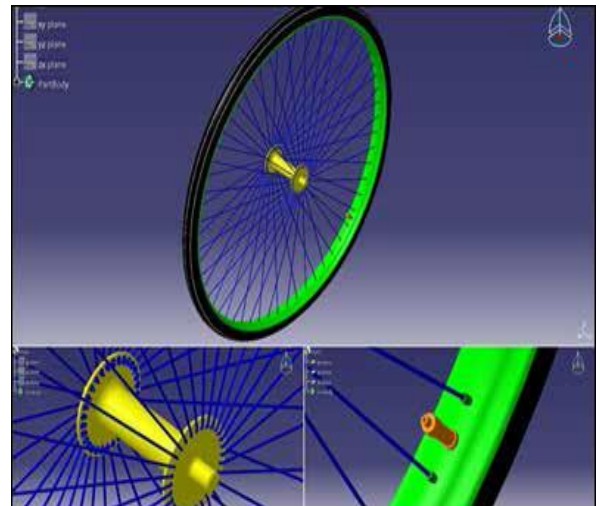


Fig: rim and wheel

### 4. NEODYMIUM MAGNETS

Neodymium magnet, the most widely used type magnet. It's made from alloy of neodymium. Neodymium magnets are much powerful than other magnets. Because of this the cost of it also higher than other magnets.



Fig neodymium magnets

### 5. FRAME

The frame of tricycle is made up of metal tubes. It's made up of electric resistance welding.



Fig frame

### V.CONSTRUCTION

The magnets, wheels are placed in the tricycle frame. The front wheel and rear wheel are connected by a steel bar. The magnets are placed near to front wheel in a wooden box which is placed in opposite poles facing manner. To control the speed of vehicle brakes are attached. The brake system is also provide in the vehicle. A seat capable of carrying a human on it, is also provided. A space is provide for carrying goods is also arranged in it.

### VI.CONCLUSION

The "magnetic tricycle" was designed. This is very much need for handicapped persons. This tricycle is full and fully

eco-friendly. This does not uses any fossil fuels. In future may be there is no fossil fuels. This is an alternate energy source for future uses. We are using petrol, diesel a gas is highly for the transportation. The Lorries, cars, busses and trains used these fossil fuels more. So they produce high air pollution. By the development of this project the environmental pollution Very much decreased, and the human effort of handicapped persons are reduced and the usage of magnetic tricycle improves the wealth of country by improving the health of physically disabled people. This project will able to help the patients and physically handicapped people in such a way that user friendly type. Moreover it will increase the confidence level of the disabled persons. In short, our project is society centred concept for all under medical care.

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