

HAND'S FREE VEHICLE

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ABSTRACT

This paper is based on vehicle for the physically challenged person. This paper gives the information about the vehicle for physically challenged person. The aim of this paper is to highlight we can use this vehicle for persons who don't have both hands. In this vehicle which can be driven and controlled by legs in which the steering controls is transferred from hands to legs by a technical modification. The driver will be able to accelerate the vehicle by his right foot and braking is done by braking pedal with his left foot. To control direction of motion when driver steers the vehicle he turns the foot rest which is mounted on larger gear by means of bolts. The vehicle was designed for driving with legs so that a person with disability in hands could control the vehicle. The whole embodiment of the invention function dependently with all technical configuration of hollow and solid shafts, ball bearings, teathed wheel, gear chain, and circular plate, electrical, additional wheels and other integral components.

Keyword: - Chain Sprocket, Chain, Tire's

1. INTRODUCTION

This project was inspired by those with interests in cars, driving who at some point in their lifetimes lose the use of their hands. This handicap can be attributed to a number of events including car accidents, disease, or injury in military service. Hundreds of thousands of individuals live with hand disability in the world. In human life transportation is playing very important role from ancient time, due to transportation and communication facilities we say that, world is coming closer and closer [6].

The present specially designed vehicle for the physically challenged person which can be driven and controlled by legs in which the steering control is transferred from hands to legs by a technical modification. The whole system of the invention function dependently with all technical configuration of hollow and solid shafts, ball bearings, teathed wheel, gear chain, and circular plate, electrical, additional wheels and other integral components.

1.1 Field of Invention

The technical field relates to the hands free motorbike for the physically challenged person. More specifically the invention relates to foot control steering plate incorporated with Ignition system, accelerator and brake pedals comprising electrical indicators

(Sound horn, Flash and Direction lights). The invention further provides two additional wheels for the safety balance which is integrated to the rear end.

1.2 Background of Invention

In the present generation, the automobile usage all over the world is increasing phenomenon in which particularly vehicle for physically challenged persons do not satisfies all the requirements and comforts to them. The existing vehicles for physically challenged person are mostly available for person with both hands so to address this problem, the present invention introduced with an all driving features functioned by legs which facilitated the hand less person to self- drive the motorbike.

1.2 Background of Invention

1. In the existing technology the automobile companies manufacturing vehicles for physically challenged person with side wheels and other auxiliary modes which are not suitable for specifically disabled persons to self-drive.
2. Further the substantial need for self-controlled driving for hand less person is increased but no advancement have been done in the prior art in an effective way.
3. The existing vehicle for physically challenged persons do not satisfies the restricted use of limb in control mechanisms for a driver that need use of legs alone which is much rider friendly particularly for the hand less persons.

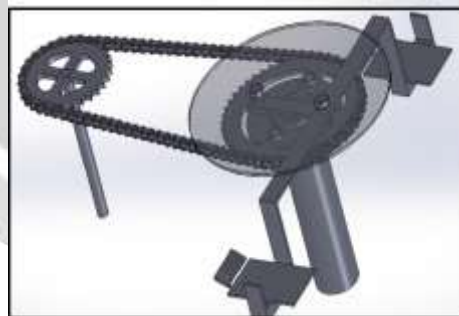
1.3 Problem Definition

In the existing technology the automobile companies manufacturing vehicles for physically challenged person with side wheels and other auxiliary modes which are not suitable for specifically disabled persons to self-drive. Further the substantial need for self-controlled driving for hand less person is increased but no advancement have been done in the prior art in an effective way. The existing vehicle for physically challenged persons do not satisfies the restricted use of limb in control mechanisms for a driver that need use of legs alone which is much rider friendly particularly for the hand less persons.

To overcome the above problems and disadvantages of existing devices, we have to modify the existing design and fabricate the vehicle for physically challenge persons with all driving features functioned by legs.

2. WORKING

The design is specially made for physically challenged people (without hands).This vehicle allows them to drive and control it by leg alone .The foot driven vehicle resembles a standard vehicle which is modified to meet special needs. For this purpose we are going to assemble sprocket and chain mechanism.



This mechanism consists of:

1. Two sprockets.
2. Two shaft.
3. Chain
4. Pedal.

In this mechanism two shaft are used ,one shaft is used for the mounting of the sprocket which is used as the steering wheel and other is used for the mounting of the acceleration pedal , brake pedal and sprocket.

When the person (having hand disability) placed his legs on footer. The force and moment of the foot is transfer to the steering wheel with the help of chain and sprocket mechanism .so in this vehicle the important

function like steering control, acceleration, braking and other electrical accessories like horn, lights and indicators are controlled by means of legs with specialized design modifications.

3. MERITS

1. This motorized bike facilitate person who doesn't have both hands.
2. We provided handle to the bike so that normal person can also do same.
3. It is easy to control when person get synchronized with bike.
4. It is less costly as compared to other tricycles for handicap persons.
5. It is light in weight.
6. As it is battery operated hence there is no need of fuel, less costly, less pollutant.

3. DEMERITS

1. Difficult to handle until get command over control mechanism.
2. As it is battery operated it can be used over a specific distance for low load application

4. CONCLUSIONS

Thus we conclude that it is not possible for a person with disability in their hands to drive a vehicle which is present in the market as the vehicle's control system is present in the hands. For a hand disabled person driving a vehicle is possible by legs. This will be possible if the entire vehicle's control is transferred to legs. The leg operated vehicle is fabricated by using simple mechanism for steering, acceleration and braking which will enable the person to drive the vehicle.

6. REFERENCES

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