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Department of Mechanical Engineering

A Project Report On

"HAND ACTUATED TILLER COUPLED WHEEL CHAIR FOR HANDICAPPED PEOPLE"

A Dissertation work submitted in partial fulfillment for the award of the degree of

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IN
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CHAPTER: 1

INTRODUCTION

We all have seen the wheel chair that normally the patients or the handicapped peoples use & it needs someone to push or the person on the chair has to apply force directly on the wheels which make him tired and strained and if the patient want to go to the table he has to get down and shift to other chair. Thus to eliminate these problems of a patient or a handicapped person we have designed a three wheeled device. This tricycle relates to a portable self-propelled device without using either electric or fluid power. In some embodiments .it also helps to take a turn too easily than the normal wheel chair.

It has a tiller pulling of which makes the tricycle to move forward and backward and it's made so portable that the person using it can move independently in home and outdoor applications. Normal wheel chairs we find a paddle which is a more laborious job. In some other the person sitting on it must himself strive hard to move by rotating the wheels with his hands. Depending upon the lever pumped forward or reverse motion is obtained a modest back and forth pumping of the lever is sufficient to move the chair and occupant to easily keep up with friends another pedestrians.

There is lot of technological advancement, in wheel chair propulsion other than manual wheel turning. A normal wheel chair used for handicap and the tricycle users for normal people use hand drive or propulsion or foot pedal propulsion.

The manual propulsion has become increasingly important because the population of propulsion of individuals using wheelchairs is growing and requires efficient mobility to maintain a quality of life equivalent to the general population. Several attempts have been made at improving manual wheel chair propulsion, such as changes in the wheels and tires, adding gears and designing alternative propulsion systems. Still, experts and consumers generally agree that innovation in propulsion is still needed. Improved propulsion technologies will reduce physical fatigue and effort maneuverability.

Pain and upper extremity injury is common among manual wheel chair users. Shoulders related injuries have been shown to be present in up to 51% of manual wheel chair users. In addition, the prevalence of elbow, wrist and hand pain has been reported to be 16%. During wheel chair propulsion, users must exert large forces in order to propel the chair forward. In addition, the component of force that is directed in towards the hub does not