

NAV SMART BIKE

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Abstract

This paper relates to energy restoration during braking in bicycles using flywheel of uniform thickness and more particularly, the transmission from paddling to rear tire is through shaft containing twin double helical (*also known as herringbone gears*) bevel gears, one at paddling position & other is at rear tire. Two bearings are used with attachable in both double helical gears to prevent the rotation of paddles constantly by itself during braking, when no paddling is done by rider. The flywheel comes into rotation during braking and after braking force is removed then it increases acceleration of the bicycle & also reduces human effort. The flywheel weighs varies between 6-7kg respective to type of bike used & chain or belt can be use for power transmission from rear sprocket to flywheel. The use of double helical shaft transmission system increases power transmission & hence increases speed of the vehicle. The utility model is a bicycle which can generate and store electric energy when persons ride bicycles to go downhill, and can use the electric energy which is stored when the persons need great effort to go uphill. The energy can be sufficiently use. Also, the use of double helical gears reduces torque effort of the rider.

Keywords

- Regenerative braking system
- flywheel
- uniform thickness flywheel
- shaft transmission bicycle
- double helical bevel gears in bicycle
- twin double helical bevel gears

Biography

Navpreet Singh Chandok, is a student of CGC-College of Engineering, Landran, Mohali and pursuing bachelors in mechanical engineering in final year from respective institute. He had undertaken many projects during his graduation. He has given seminars & workshops to mechanical engineering students on various project work, automobile overhauling, automobile CAD designs & analysis. He is a Vice-Chairperson of SAE CGC Collegiate Club since 2015. He is also work as hon. reporter of Anthak news, a weekly newspaper in Punjab, INDIA.