IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 1, June 2022
Impact Factor: 6.252

Design of Rocker Bogie Mechanism

P. D. Kolhe[1], K. P. Salve[2], S. S. Bhalsing[3], R. N. Jadhav[4], Prof. S. B. Gunjal[5]
Final Year Students, Department of Mechanical Engineering[1,2,3,4]
Project Guide & Professor, Department of Mechanical Engineering[5]
Rajiv Gandhi College of Engineering, Ahmednagar, Maharashtra, India

Abstract: *Rocker bogie are important for conducting in-situ scientific analysis of objectives that are separated by many meters to tens of kilometers. Current mobility designs are complex, using many wheels or legs. They are open to mechanical failure caused by the harsh environment on Mars. A four wheeled rover capable of traversing rough terrain using an efficient high degree of mobility suspension system. The primary mechanical feature of the rocker bogie design is its drive train simplicity, which is accomplished by using only two motors for mobility. Both motors are located inside the body where thermal variation is kept to a minimum, increasing reliability and efficiency. Four wheels are used because there are few obstacles on natural terrain that require both front wheels of the rover to climb simultaneously. A series of mobility experiments in the agriculture land, rough roads, inclined, stairs and obstacles surfaces concluded that rocker bogie can achieve some distance traverses on field.*

Keywords: Rocker bogie; Wheel type mobile robot; Stair climbing; Rover

REFERENCES

[1]. Nitin Yadav1, BalRam Bhardwaj2, Suresh Bhardwaj3, "Design analysis of Rocker Bogie Suspension System and Access the possibility to implement in Front Loading Vehicles", Volume 12, Issue 3 Ver. III (May. - Jun. 2015), IOSR-JMCE

[2]. Dongmok Kim a, Heeseung Hong a, Hwa Soo Kim b, Jongwon Kim "Optimal design and kinetic analysis of a stair-climbing mobile robot with rocker-bogie mechanism" A Mechanism and Machine Theory 50 (2012) 90–108, Science direct.

[3]. Heeseung Hong a, DongmokKim a, HwaSooKim b,n, SeokwooLee a, JongwonKim "Contact angle estimation and composite locomotive strategy of a stair-climbing mobile platform "Robotic sand Computer-IntegratedManufacturing29(2013)367–381.

[4]. Aditya.V" Unmanned Terrain with Rocker" Volume 3 Issue IX, September 2015 ISSN: 2321-9653

[5]. Mayank Das Manik1, Akanshu Singh Chauhan 2, Sandeep Chakraborty 3, Vaibhav Raj Tiwari4 Experimental Analysis of climbing stairs with the rocker-bogie mechanism Bogie Suspension Vol-2 Issue-2 2016 IJARIIE-ISSN(O)-2395-4396

[6]. V.B Bhandari ' Design data book'