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DESIGN AND CONSTRUCTION OF A GYROSCOPIC PROPULSION MECHANISM [10]

Assoc. Prof. Ivan A. Loukanov
Department of Mechanical Engineering,
University of Botswana, Botswana
Tel.: 00359896403311
E-mail: loukanovi@gmail.com

Svetlin Stoyanov, PhD
Department of Technical Mechanics,
"Angel Kanchev" University of Ruse
Phone: 00359887549965
E-mail: spstoyanov@uni-ruse.bg

Abstract: *This paper outlines the design and construction of a Gyroscopic Mechanism anticipated to create a thrust due to inertial forces generated by the rotation of unbalanced gyroscopes. The mechanism consists of four gyroscopic discs each carrying an offset mass. The gyroscopes are driven by a DC motor, which is powered by an external control and power supply unit. The rotation of the motor is transmitted via a reduction gear train and a synchronous belt drive to the first gyroscopic carrier. The latter converts its rotation through a bevel planetary gear train into a gyroscopic motion of two unbalanced discs mounted on it. Each disc carries an offset mass synchronised to that of the other disc by making discs as externally meshed spur gears. As a result, the discs rotate opposite to each other about their own axes and at the same time, they rotate about the axis of gyration of the carrier being perpendicular to the first and intersecting the discs axes. Therefore, the discs perform gyroscopic motion as they rotate about their individual points of intersection. Next, the rotation is transmitted from the first carrier through a synchronising gear train to a second carrier and planetary gear train and via another synchronous belt drive to a second pair of gyroscopic discs. The latter act alike those in the first disc carrier. In brief, the mechanism consists of four unbalanced gyroscopic discs generating variable inertial forces, which are expected to propel the system if appropriately synchronised. The trajectories of offset masses are found to be of figure-eight-shape located over the upper half of a spherical surface and therefore are not passing under the axes of the gyroscopic carriers.*

Keywords: *gyroscopic disc, planetary gear train, inertial propulsion, gyroscopic mechanism*

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