

Fabrication of Mono Roue

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ABSTRACT

A **mono wheel** is a one-wheeled single track similar to uni cycle. However, instead of sitting above the outer cycle, the rider sits inside the wheel. The wheel is a ring, usually driven by uni-cycle which is pressed against to the outer wheel. It was designed as a single-passenger vehicle, or a multi-passenger vehicle has been built in 19th Century. Hand-cranked and pedal-powered mono wheels were built in the late 19th century; most built in the 20th century have been motorized. Some modern builders refer to these vehicles as the **monocycle**, though that term is used to describe motorized unicycles.

Keywords - Welding, fabrication, mono Roué, Single wheel cycle.

I. INTRODUCTION

Today, mono wheels are generally built and used for fun and entertainment purposes, though from the 1860s through to the 1930s, they were proposed for use as serious transportation. In a two-wheel mode of transportation, two systems (wheels) affect motion. Typically one wheel provides the force to control speed, while the other handles changes in direction, steering. For a mono wheel, both direction and speed are controlled through the same physical apparatus this generally makes steering more difficult.

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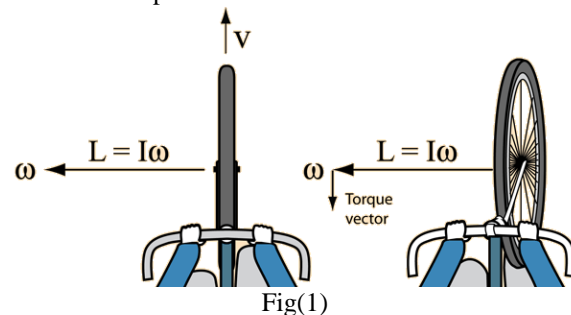
III. EXPLANATION AND FIGURES

1. Introduction

- 1.1 Fabrication of Mono Wheel

In a majority of systems, change in direction is affected by the rider shifting his or her weight, or in the sudden movement creating a shearing force between a handhold and the axis that the driver is

settled on. Better control can usually be achieved at lower speeds. Because of the steering problem, mono wheels have never caught on as a widely accepted mode of transportation.



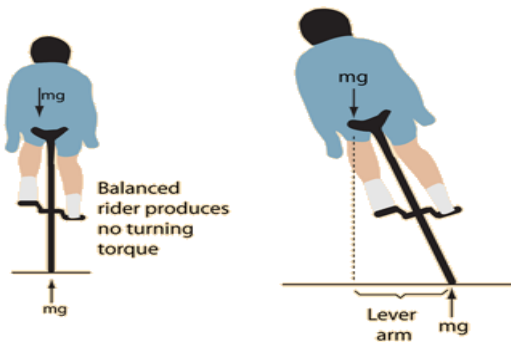
1.2 turning of Mono Wheel

A bicycle held straight up will tend to go straight. It is tempting to say that it is stabilized by the gyroscopic action of the bicycle wheels, but the gyroscopic action is quite small. In terms of the stability of the bicycle when riding, the association with leaning and turning does hold true. The construction of a bicycle is such that a left lean does cause the front wheel to turn left, contributing a kind of self-stability to the bicycle. If you feel yourself unbalanced and leaning left, then turning left does help you correct the imbalance because the centrifugal force associated with the turn does tend to push the top of the bicycle back toward the vertical.

1.3 Steering

In a two-wheel mode of transportation, two systems (wheels) affect motion. Typically one wheel provides the force to control speed, while the other handles changes in direction: steering. For a mono wheel, both direction and speed are controlled

through the same physical apparatus; this generally makes steering more difficult. In a majority of systems, change in direction is affected by the rider shifting his or her weight, or in the sudden movement creating a shearing force between a handhold and the axis that the driver is settled on. Better control can usually be achieved at lower speeds. Because of the steering problem, mono wheels have never caught on as a widely accepted mode of transportation.



Fig(2)

2. Specifications

- 2.1 specifications of Mono wheel
- Diameter of the outer wheel: 64 inches
- Diameter of uni cycle: 24 inches
- Pedals: 3 inch (each)
- Length of rod: 54 inch
- Guide wheels: 5 inch (each)



Fig(3)



Fig(4)



Fig(5)

2.2 Body



Fig(6)

3. Working Principle

3.1 Working

It works on a principle of Gyro Scopic effect. A gyroscope is a device that can be used to maintain orientation based on the principles of angular momentum. It is a mechanism by means of which a Rotor is Journal to spin Around an Axis.

If a spinning gyroscope is placed such that its axis is horizontal and loosely supported from one end, the gyroscope does not fall. It rather maintains its horizontal axis and the unsupported end starts moving in a circular manner about the horizontal axis. The resultant rotation is perpendicular to the gravitational torque and the axis of rotation. The speed of precession of a gyroscope inversely varies with its angular momentum.

3.2 Advantages

- 3.2.1 More speed Can Be Achieved Comparing to the Normal Bi-Cycles.
- 3.2.2 Less Man Power Required In Mono Wheel.
- 3.2.3 Single Setter Vehicle Will Avoid Accidents Comparing to Normal Bi-Cycles.

3.3 Applications

- 3.3.1 Rapidly Used In Gymnastics and Olympic Opening Ceremonies.
- 3.3.2 for Fun and Adventure Purpose.

3.4 Disadvantages

3.4.1 Visibility May be a Problem due to Outer wheel.

3.4.2 Turning will be a Tuff one in Sharp Curves.

4. Real view of Model

4.1 Images of Model



Fig(7)



Fig(8)

4.2 Designed view of Model Using Catia V5 Software



Fig(9)

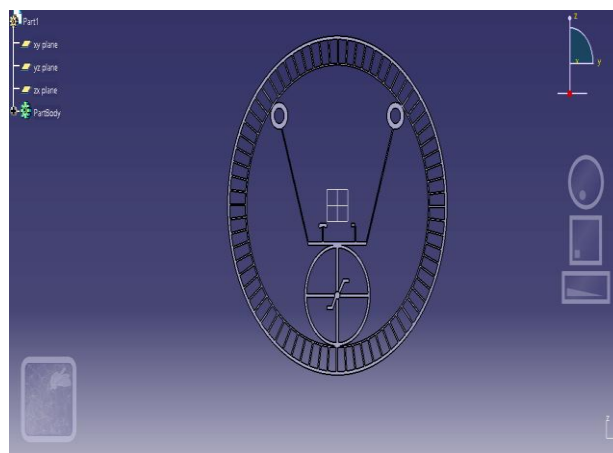


Fig (10)

IV. CONCLUSION

Leaning the most common steering solution is that the rider must lean towards his intended direction of travel to turn, and then centralize his weight again once the turn is complete. At speeds faster than a walk, lightly dragging a foot on the ground will cause the wheel to lean to the opposite side. Drag the other foot to bring it back upright. Steerable propellers, which could provide both steering and power to move the vehicle. It has been noted that having a propeller operating near pedestrians would likely be quite unsafe. Steerable tail surfaces, similar to those on airplanes. This solution would not work at low speeds.

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