

## Bicycle - A High Utility Vehicle

Evolution of bicycle commenced in 1818 with push bikes or hobby horses which were like a wooden frame supported by two in-line wheels and the rider used to push it with his feet while navigating the front wheel. Then in 1839 it was refined, as a mechanical crank drive was added to the rear wheel.

A new design of bicycle marked its beginning in 1850s and 1860s when Frenchmen Pierre Michaux and Pierre Lallement placed pedals on an enlarged front wheel. It was made of wrought iron and wood with mounted wire spiked wheels with solid rubber tires on a tubular steel frame. But this designed faced problem of very high seat and uneven distribution of weight.

Subsequently, these problems were solved to some extent by reducing the front wheel diameter, adding gears to attain enough speed, setting the seat in the middle, etc. But it faced major problem with the front wheel, as both pedal and steer were attached to it. Then J.K. Starley, J.H. Lawson and Shergold connected the pedals with the back wheel with chain drive system to reduce the problem. Those bicycles were given a name of safety bicycles or dwarf safeties, as they had lower seats with equal distribution of weight.

Golden age of bicycles began in 1890s, since new innovations made these bicycles more comfortable. Pneumatic tire was an invention of Scotsman John Boyd Dunlop in 1888 and then only freewheel was developed. Subsequently, coastal brakes were invented in 1898. This period also marked the introduction of derailleur gears and hand operated cable-pull brakes. Soon it became world wide famous due to its high utility in almost every field. It was used in India to distribute milk in houses, used by postman for mail delivery, used by military for troupe movement, and it also became a source of recreation.

With an advent of technology and modern materials, various types of bicycles are launched in the market. There is a range of utility bicycles, racing bicycles, mountain bicycles, BMX bicycles and many more. One can select the type of bicycle according to his requirement in terms of functions, number of riders, etc.

A rider rides the bicycle by keeping it upright so that the centre of gravity remain on its wheels. He leans while taking a turn by turning the handlebars with his hands. He uses brakes in order to stop, as the brakes applies stopping force to the front wheels. It is the most energy-efficient means of transportation, as it requires very low energy to ride in a slow speed and transmits 99% of energy of a rider to the wheels.

With an influx of technology and innovations, the designing of bicycles has remarkably changed. There are different models for men and women, racing and ordinary rides, cargo carriers and circus use. Each model has its own unique features in order to meet the exclusive requirements of the rider like gears for racing riders, cushioned saddles for short distance riders, disc brakes for off-road riders, etc.

The use of bicycle has not only improved man's day to day life, but also contributed for better environment because cycling doesn't cause pollution. Moreover, it has positive effects on one's health. Manufacturing of bicycles has led to the development of other industries also like composition of ball bearings, sprockets, washers, etc., as many companies make frames of bicycles and buy other parts from other companies.

## About the Author

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Roberto Sedycias works as IT consultant for [www.PoloMercantil.com.br](http://www.PoloMercantil.com.br)

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