

# Variable Gear System for Cycle Rickshaws

Sheikh Jabbar, from a village near Nagpur, developed a variable gear system for cycle rickshaws inspite of the financial constraints and ridicule. Determined, he left driving trucks and bought a rickshaw for Rs.550 in 1975 to earn his living as well as try out his ideas. He would open the parts to understand mechanism and went hunting for scrap and spare parts in Chor Bazaar.

He developed a four-gear rickshaw with differential mechanism and single axle in which the double-axle was removed and a single continuous axle was introduced. The power from the paddle was transferred to both the wheels in a much simpler way and the add-on weight was also reduced. The principle was similar to that of a double sprocket system, where two free wheels were used. Free wheel is an indigenous mechanism which allows rotation in one direction and becomes free in the reverse direction. He used this and converted it into a gear system, where the gear is changed or engaged with the help of a dog-lift, which can be activated by the rickshaw puller with the help of the lever attached to the handle. It has improved free wheel, multi-gear system, drum brake means and multi-chain system. It is simpler in construction, of lower cost and easier to maintain as against similar devices which have got US patents. Compared to traditional rickshaw cycles and the ones developed by IDC and IIT Delhi, this model made by Jabbarbhai has three and four gear speed options.