



Side-stand gear lock system

Consolation

K S Sudheer

Thrissur, Kerala

Background

K S Sudheer (45), an auto mechanic by profession, has come up with a side-stand gear lock system to prevent accidents when two wheeler side-stands are not pushed back.

He comes from farming background, has wife and two sons in his family. Having studied till class tenth only, he drives tempo on contract basis apart from repairing vehicles.

He has a small workshop and remains busy with solving day-to-day problems and inventing low cost devices. Since childhood, his inquisitiveness led him to make small gadgets and he learned early, about building small models of jeeps and cars.

Sudheer is a determined man of many talents who has not lost his smile after many years of hardship. After buying himself a house, almost a decade and half ago, which at that time had a small room only in front, he has now expanded it brick by brick. Though he faced continuous financial constraints, with grit and determination, he personally

added new structures and various utilities. He wired and painted his house himself.

He modified the steering wire connexion in lorries and then took the variant for auto rickshaws for filing a patent in December 2005. He won a state level award "New Automobile Invention 2006' by Association of Automobile Workshops, Kerala in August 2006 for his innovations.

He pondered over a way to avoid wastage of water and electricity in domestic households when pumps are inadvertently kept running and there is overflow of water from the tank. To avoid this, he built a float valve based control system using empty paint can, an iron rod, a cable, a hose and a switch.

Genesis

One day in 2004, Sudheer was standing at a railway crossing, when he witnessed a harrowing motorcycle accident involving an entire family. The accident happened because the motorcycle side-stand had not been pushed back after riding on the vehicle. It struck against an obstruction on the

ground while the vehicle was moving. This small family was on the bike and all of them got badly injured.

This forced him to think immediately about making an effective device, which could prevent such accidents in future. He decided to develop a simple, low cost hook, which can be retrofitted to a two-wheeler, so that the user is unable to move his vehicle unless the side stand is pushed upwards and is made free from the ground.

That day, he came back purposefully and as his family was away, he had all the time for himself. It took him just one night to think about the solution and by next afternoon, he was ready with the side stand gear-locking system made from available materials, which he refined later into a functional model and tested successfully.

Innovation

The retrofittable kit consists of a clamp, which restricts engagement of gears when the side-stand is not pushed back. The gear lock clamp consists



of an angular rod welded to the base washer, which achieves locking of the gears.

The interlocking mechanism is simple, with minimum complexity and is easy to assemble and disassemble. Currently this kit has been configured for some models of Bajaj and Hero-Honda bikes; it is being developed for other model of bikes and also being made more durable.

Many commercial two wheelers come with built in side-stand locking systems with indicator and alarm systems¹. Sudheer's system is a simple, low cost gear lock clamp costing just Rs 20/-.

The innovator has successfully tested this product. The patent has been filed, and commercial possibilities of the product are being explored.

¹ Side stand cut of systems/indicators have been available with few bikes, viz. The LML Freedom was provided with specially designed side stand that

did not allow the rider to put the motorcycle into gear unless the side stand is lifted. (www.premjis.com/lml/freedom_prima_125.htm - June 2004). Honda Deauville was having a cut off system, which did not allow put the machine in gear with the stand down. (www.kevinboone.com/mc-deauville.html, July 2004), Kinetic GF170 Laser was having a side stand indicator (www.blonnet.com/iw/2004/05/30/stories/2004053000071100.htm).

European safety measures for motor cycle described a side stand ignition cut-off system (www.pan-europe.utvinternet.ie/owners_manual/parts_location.htm) the engine cannot be started if the side stand is down. These side stand indicators are generally in built with these bikes and have sensing (mechanical/electrical sensor) and indicator (generally LEDs).