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## **GEAR SHIFT LOCKING & STAND POSITION INDICATING ENGAGEMENT OF TWO-WHEELER SIDE STAND**

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### **FIELD OF INVENTION**

Gear shift locking & stand position indicating engagement of 2-wheeler side stand is a newly developed two wheeler' side stand with some advancement & modification in the design of the current two wheeler side stand. This invention comes under the field of two wheeler side stand technology.

### **BACKGROUND OF INVENTION**

Basically, we are talking about the 2-wheeler's side stand which allows the two wheeler to be kept in standing position without the support of object other than side stand itself or with the aid of a person. A side stand is a single support that flips out to one side usually the left side & the two wheeler than leans against it. Side stands is generally mounted such that the chain stays right behind the bottom bracket or chain & seat stays near the rear hub. Side stand mounted right behind the bottom bracket can be bolted on, either clamping the chain stay, or to the bracket between them or welded into place as an integral part of the frame.

Side stand can be made of alloy steel. There may be a rubber at the end.

Side stand can be lock at either up or down place by several mean:

- A spring that is stretched when the side stand is partway deployed & less stretched when it's stowed or all the way deployed.
- A detent mechanism which usually also employs its own spring.

Now, it is to be noted that above mentioned description is about the general type of two wheeler's side stand but if we discuss about the modern type of two wheeler's side stand then we see that above mentioned description about the general type of two wheeler's side stand remains almost same in case of the modern type of two wheeler's side stand also. But additionally one more function has been commissioned in the modern two wheeler's side stand.

This function facilitates the riders to show the current position of the two wheeler's side stand through a light indicator which is commonly mounted or placed in the speedometer of the two wheeler. You can say that it's an indicating technology which shows the current position of the two wheeler's side stand with the help of a small size of LED bulb.

When the LED bulb is luminous/ switched on, it means the two wheeler's side stand is in engaged position or in working condition or the two wheeler is upright on it without leaning against another object.

When the LED bulb is switched off it means two wheeler's side stand is in disengaged position.

The advantage of this technology is to prevent the accidents.

The few examples of the two wheelers in which currently this technology is coming are hero splendor pro, pulsar etc.

But it's not work effectively, especially in day period because in day period many times the light comes from the LED bulb is not appear to the riders due to sun's light, carelessness of the riders etc.

Due to which two wheeler's side stand remains in engaged position or in working position in many cases which causes accident many times, especially when two wheeler is moving on curve paths.

And it's the object of my invention to resolve this problem completely by implementation of some modification in the present two wheeler's side stand technology.

## **OBJECT OF THE INVENTION**

I proposed a newly developed two wheeler's side stand technology that is an improved, advanced & modified version/ or design of the present two wheeler's side stand technology, which obsolete the problem occurs in present available design of the two wheeler's side stand completely.

Present available two wheeler's side stand indicating technology indicates the position of two wheeler's side stand in terms of light reflection by using a LED bulb in shape of two wheeler's side stand, the problem in this technology is already discussed above but again I am repeating, the problem in this technology is that it's not work effectively, especially in day period because in day period many times the light comes from the LED bulb is not appear to the riders due to sun's light, carelessness of the riders etc.

Due to which two wheeler's side stand remains in engaged position or in working position in many cases which causes accident many times, especially when two wheeler is moving on curve paths.

But in other hand, newly proposed & developed two wheeler's side stand indicating technology obsolete this problem completely.

In this technology, the position of the two wheeler's side stand is indicated in the form of sound by using a 12 V buzzer as well as in the form of light reflection by using a same LED bulb. And also additionally we implement a very simple mechanical mechanism in the two wheeler's side stand. And these two new implementation or modification have been successfully achieved the desired target.

## **WE CLAIM**

✚ By using this technology the rider is more capable to see the indicated position of the two wheeler's side stand more effectively in day period as well as in night with the help of implemented sound indicating technology because the sound indicating technology indicates the position of two wheeler's side stand in the form of sound & this sound will be on till the two wheeler's side stand will be in engaged position or in working position & continuously will be hear by the rider, till when the rider disengaged two wheeler's side stand by their foot & as the rider

disengage the two wheeler's side stand, indication in form of sound & as well as in light reflection will automatically switched off. By this technology we can reduce the probabilities of accidents tremendously, especially when the rider is riding the two wheeler on curve paths.

➦ Additionally implemented mechanical mechanism (called gear shift locking technology) in the two wheeler's side stand locks the gear shift mechanism when two wheeler stands on the two wheeler's side stand it means gears shall not shift or change (or work) till the two wheeler's side stand will be in engaged position or in working position, it means, if rider wants to ride the two wheeler then it's necessary to rider to disengaged the two wheeler's side stand before ride & if rider does not disengaged the two wheeler's side stand, two wheeler will not work. Resultant less probability of accidents, especially on curve path.

➦ Gear shift locking technology reduces tear & wear of gear shift mechanism, when gears shift unnecessary.

➦ This overall technology (named as gear shift locking & stand position indicating two wheeler side stand technology) makes the

two wheeler's side stand more advanced & smarter than present two wheeler's side stand.

- ✚ It increases the life of gear shift mechanism & itself.
- ✚ It increases the maintenance time gap of gears shift mechanism & itself.
- ✚ It's easy to use as present two wheeler's side stand.
- ✚ It's hundred percent feasible.
- ✚ It has very low installation cost.
- ✚ It has very low maintenance cost.
- ✚ It has very low operating cost etc.

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## **DESCRIPTION OF DRAWING & DESIGNED MODEL**

We made a working model of this project which is successfully working for six month without any problem.

And we also checked its quality behavior such as environmental impact on it, impact of this technology on two wheeler overall performance, usability, feasibility etc.

And hopefully, all inspections found positive.

In this project present working principle of two wheeler's side stand remains same & we added some more advancement in its principle by implemented few electronic & mechanical components & parts which make the two wheeler more advance, safe & sophisticated.

### **The detail of used components & parts in this project:**

- 12 V DC buzzer.
- Electrical wire.
- Mild-steel strips.
- Welding joint.

## The real images of the invented project:





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**12V buzzer for motorcycle's side stand position indication in the form of sound**