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SPROCKET SIDE STAND RETRIEVE SYSTEM

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ABSTRACT- In modern developing world, automatic plays important role especially two-wheeler i.e., (motorcycle and bikes) plays a major role .Even though they are helpful there are some sad events like accidents due to careless of rider. Major accidents occur due to forgetting of lifting side stand. To rectify this problem many advance measure have taken, but they are useless, so as a by considering that it should be implemented practically in all types bikes the new system "SPROCKET SIDE STAND RETRIEVE SYSTEM" this system can be attached in all type of two-wheeler (mopeds, geared, non-geared, hand geared bikes) and it is designed based on the working principal of bikes.

KEYWORDS: Sprocket, Avoid accident

I. INTRODUCTION

In modern world the living status were developed and developing more equipped. The automobile takes a great part in the development, since it plays one of a major key in daily life. While automobile is concern two-wheeler i.e. (motorcycles and bike) it plays very important role because it saves the time of traveler by reaching the target place very faster .Motorcycles are generally provided with stand for supporting the motorcycles when they are not in use. A motorcycle side stand is a nearly universal method of allowing a motorcycle rider to park his vehicle unattended easily. If this stand is in the park position while the motorcycle is ridden through left turn a serious safety hazard exits. A new type side stand which is automatically retracting side stand is invented to prevent such type of accidents.

II. PROPOSED METHOD

Based on the working principal of two-wheeler (i.e., the power is generated in the engine and it transmits power to the pinion and makes it to rotate. The pinion transmits power to the rear wheel pinion and makes the vehicle to move). This is the basic principal followed in all type of two-wheelers, based on this "sprocket side stand retrieve system" is designed because this system works by getting power from chain drive.

III. CONSTRUCTION

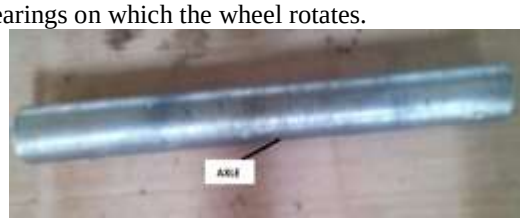
The whole construction of this system is simple and efficient. The arrangement and position of components makes the system to function. Each and every component s has its own property and responsibility. The power obtained from the chain drive is transmitted. to the appropriate component without power loss. The systematic design of system is made in order to consume only very low amount of power initially for few seconds to retrieve the stand. Then the power consumption dose not occurs after retrieving the stand.

IV. COMPONENT

- Axle
- Sprocket
- Lifting lever
- Pushing lever

A. AXLE

A rod that serves to attach a wheel and provides support for bearings on which the wheel rotates.



B. SPROCKET

A sprocket or sprocket-wheel is a profiled wheel with teeth, cogs, or even sprockets that mesh with a chain, track or other perforated or indented material. It is a part of the drive train that propels the bike forward.

C. LIFTING LEVR

It is used to apply leverage to increase the resistance that can be moved with a given effort. E.g. to increase the velocity at which an object will move with a given force.

D. PUSHING LEVER

A simple machine consisting of a rigid bar pivoted on a fixed point and used to transmit force, as in raising or moving a weight at one end by pushing down on the other. A projecting handle used to adjust or operate a mechanism.

V. WORKING PRINCIPAL

In Automatic side stand retrieve system, the side stand automatically gets retrieved if the rider forget to lift the side stand while moving the bike. It's working is based on the working principle of the two-wheelers. In motor bike power is transmitted from engine's pinion to the rear wheel i.e.(rotary motion of the pinion makes the linear motion of the chain. That linear motion of the chain is absorbed by rear wheel's sprocket and converted into rotary motion). That rotary motion of the rear wheel makes the bikes to move. Based on this side stand retrieve system is designed. If Sprocket is kept between the chain drive, it make the sprocket to rotate. The working of this system is based on the sprocket. It gains the power from the chain and make specially designed component (lifting lever) to rotate. This rotation incites engaged pushing lever to push the side stand to retrieve. When chain rotates in anti-clockwise direction the inciter assembly's sprocket absorbs the power and rotates in clockwise direction.

VI. APPLICATION

- Used in all type of two wheelers, geared, non-geared, hand gears.

VII. ADVANTEGES

- Easy in installation
- Simple in mechanism
- No extra power source required
- Smooth running
- Low in cast

VIII. WORKING MODEL

IX. CONCLUSION

"Sprocket- side stand retrieve system" will definitely good retrieve system. Since the setup is compact it does not affect the performance of the vehicle. Because of the power is obtained from chain drive. Definitely this system could be used in all type of two-wheelers (Tvs-XL, all front, back, hand geared) for retrieving the side stand, it will be the major system to control accidents due side stand problem and protect the careless rider. This system can be implemented in all types of bikes by changing small variation in size and cost of this system also very low and so it will not affect the economic level also. While compare to other system this SPROCKET SIDE STAND RETRIEVE SYSTEM will be the life saver.

REFERENCE

[1] Analysis on braking ability of automobile equipped with eddy current retarder.HE Ren, HE Jian-qing(School of Automobile and Traffic Engineering, Jiangsu University, Zhenjiang,Jiangsu 212013, China).

[2] Modelling and analysis of Two wheeler connecting rod.International journal of Modern Engineering Research (IJMER) Vol.2, Issue.5, Sep-Oct. 2012 pp-3371 cting rod, Dr. K.Tirupathi Reddy2. Syed Ataf Hussain.

[3] Shigley, J.E. and C.R. Mischke, 2001. "Mechanical Engineering Design", McGraw-Hill, New York, 776. Webster, W.D., R.Coffell and D. Alfaro, 1983.

[4] Meriam, J.L. and L.G.Kraige., 1998. Engineering Mechanics, 5th Edition, New York, john willey, 712.

[5] Kolchin, A., V. Demidov, 1984. "design of Automotive Engines," MIR publication.