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Automatic Side Stand Retrieve System

BHARANEEDHARAN MURALIDHARAN	Assistant professor, Mechanical Engineering, Saveetha School of Engineering, Saveetha Nagar, Thandalam, Chennai – 602 105.
RANJEET POKHAREL	Student, Mechanical Engineering, Saveetha School of Engineering, Saveetha Nagar, Thandalam, Chennai – 602 105.

ABSTRACT

The present paper relates to motorcycles and more particularly to an improved stand for motorcycles The objective of this paper is to provide a device responsive to an operating condition of the engine of the motorcycle for moving the stand to its raised position when the motorcycle is in its running position.

KEYWORDS automatic, minimizes accident

I. INTRODUCTION

Motorcycles are generally provided with stand for supporting the motorcycles when they are not in use. The standard usually comprises a bar or rod which is pivotally attached to the lower portion of the motorcycle frame and is movable to a laterally, downwardly extending position so that the motorcycle can be tilted against and rest upon the bar. When the motorcycle is in use, the bar is swung upwardly and along the frame so that it will not interfere with the running of the motorcycle. Often the cyclist neglects to move the standard to its raised position and when a banked turn is made the standard strikes the ground and causes the motorcycle to be thrown to the ground, generally with serious consequences to both the cyclist and the motorcycle.

II. PROPOSED METHOD

Based on the working prnciple 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 principle followed in all types of two-wheelers, based on this "automatic side stand retrieve system" works.

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 components has its own property and responsibility. The power obtained from the chan drive is transmitted to the appropiate 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 doesnot occur after retrieving the stand.

IV. COMPONENTS

- Axle
- Sprocket pinion
- Lifting lever
- Pushing lever

V. WORKING OF COMPONENTS

1. AXLE

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

2. SPROCKET PINION

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.

3. LIFTING LEVER

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.

4. 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.

VI. WORKING PRINCIPLE

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 assemblies sprocket absorbs the power and rotates in clockwise direction.

VII. ADVANTAGES

- Simple mechanism
- No need external source
- No electronic control required

VIII. APPLICATIONS

- Applicable to all type of two wheeler, geared, nongeared, hand geared.

VI. WORKING MODEL

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