

FABRICATION of CHAIN DRIVE INSTEAD of USING DRIVE SHAFT BICYCLE

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ABSTRACTS- A shaft driven bicycle that uses a shaft drive instead of chain two set of bevel gear at both end to make a new kind of transmission system for a bicycle for getting high reliability system. And more safe system. This project is developed for the users to rotet the back wheel of bicycle using propeller shaft and bevel gears. Useally in two wheeler, chain and sprocket method is used to rotet a back wheel. Shaft driven bike have a large bevel gear were a conventional bike would have itd chain ring. The bevel gear is used to transmute the power from pedal to back wheel with the help of propeller shaft. It transfer the power at ninety degree one gear to another gear. The mostly use the chain drive bicycle because of gear range are possible with chain sprocket. Recently, but we are use the bevel gear replace by chain drive. In now day gear technology is best compare with chain drive. In which chain drive sleep problem are create after few day because change the length of chain. And in which gear no sleep problem only lubricated.

Keyword- bevel gears, pedal, propeller shaft, fender, bearing, shaft driven bicycle.

INTRODUCTION

A pole driven bike is a bike that uses a drive shaft drive rather than a chain drive two arrangement of slope equip a both end to make another sort of transmission framework for a bike for getting high dependability framework. Also, more sheltered system. This venture is produced for the clients to rotet the back wheel of bike utilizing propeller shaft and angle gears. Useally in bike, chain and sprocket strategy is utilized to rotet a back wheel.

shaft drive were presented over century over back, however were generally supplanted by tie driven bikes because of the apparatus go conceivable with sprocket and derailleur. As of late, because of progression in inside rigging innovation, few current shaft driven bike have been presented. Shaft driven bicycle have expansive slant equip where an ordinary bicycle would have its chain ring. This work with another angle outfit mounted on a drive shaft .the utilization of incline adapt permits the hub of drive torque from the pedal to the turned through 90 degree. The drive shaft at that point has an another incline equip close to the back wheel center which networks with an angle adapt on the center where the back sprocket would be on an ordinary bicycle, and counteracting the main drive torque change of pivot.

A NEED

We as a whole realize that the chain drive is most utilize however in which chain drive dozing issue are make and following couple of days increment the length of affix and make to issue for working bike. Also, substantially more issue make in chain drive bike, for example, material messy by oil.

So we are utilize the pole drive utilizing slope outfit in which adapt no resting problems, dirty material are make. And furthermore better solid. It use in hustling and cycling reason.

B. OBJECTIVE

- Increase the solidness of bike with the assistance of shaft drive.
- Reduce the support cost of bike .
- Save vitality.
- System is generally dependable
- Reduce commotion contamination

CONSTRUCTION



Fig[1].Bicycle operate using shaft drive

COMPONANTS:

- a. Pedal
- b. Fender
- c. Rear brake
- d. Hub
- e. Bevel Gear
- f. Driven Shaft

a)Pedal

leg to turn the base section shaft and push the bike's wheels. Pedals as a rule comprise of an axle that strings into the finish of the wrench and a body, on which the hassocks or is appended, that is allowed to pivot on orientation as for the shaft. Part joined to wrench that cyclist A bike pedal is the piece of a bike that the rider pushes with their foot to move the bike. It gives the association between the cyclist's foot or shoe and the wrench permitting the pivot to give the bike control.



Fig[2]. Pedal

b. Fender

of curved Piece metal covering a part of wheel to protect the cyclist from being splashed.



Fig[3]: Fender

c) Rear Brake

Instrument actuated by brake link packing a caliper of return springs. It powers a couple of brake cushions against the sidewalls to stop the bike. A bike brake is an essentially instrument, it worked by hand lever. fig demonstrates the back brake.



Fig[4]. Rear Brake of Bicycle

d)Hub

Focus some portion of the wheel from which talked emanate, inside the center are metal rollers empowering to turn around in hub. additionally center methods for focus some portion of the wheel. Furthermore, holding for the bearing and talked.



Fig[5]. Hub

e. Bevel gears

An angle adapt is an incline outfit with the helical teeth.The principle use of this is in a vehicaldifferential,where the heading of drive from the

drive shaft must be turned 90 degree to drive the wheel. the helical outline creates less vibration and commotion than the chain drive.



Fig[6].Bevel Gear

F) Driven Shaft

A pole driven bike is a bike that uses a drive shaft rather than a fasten to transmit control from the pedals to the wheel. Shaft drives were presented over a century prior, yet were for the most part supplanted by fasten driven bikes because of the apparatus ranges conceivable with sprockets and derailleurs. As of late, because of headways in inner rigging innovation, few current shaft-driven bikes have been presented.



Fig[7].Driven Shaft

WORKING

The activity in the plan for appropriate drive shaft and substitution of tie drive easily to transmit control from the foot pedal to the back wheel of bike without rest of the rigging. It require just a less upkeep .it is practical. A propeller shaft quality is progressively and width of the propeller shaft is less. The both the finish of the propeller shaft are slant outfit are fitted and we are dismissed the all inclusive joint on account of the joint of widespread is adaptable in which adaptability power will more misfortune contrast and without all inclusive joint so we are not the utilization of joint in drive framework.

At the point when Rider apply the power on the foot pedal will turn and furthermore pivot the slope equip on the grounds that angle outfit are coincided with the pedal. Furthermore, this slant outfit are joined to the another angle it exchange the

power at 90degree. What's more, same this framework fitted in back wheel on center point of wheel supplant the chain sprocket and drive shaft are connected to the both end of angle adapt. Furthermore, transmit the power from pedal to the back wheel with the assistance of drive shaft.

A pole driven framework is entirely straightforward in plan. A pole drive is basically a mechanical piece that move control and on account of a chainless shaft drive bike, it work by exchanging power from the pedal to the back wheel through the mix of apparatus, a pole bar and bearing, all housed inside an AL fenced in area to shield the part from the components. Not at all like ordinary chain bicycles, shaft drive framework make less commotion, offer smoother equip moving and last more. You likewise don't need to stress over oily and corroded chains and bike gasp cuts.

Determination Of Bevel Gear

Slope gears will be gears where the tomahawks of the two shafts converged the tooth-bearing appearances of the riggings themselves are narrowly molded. Slant gears are regularly mounted on shafts that are 90 degrees separated, yet can be intended to work at different points too. The pitch surface of slant gears is a cone. Two essential ideas in adapting are pitch surface and pitch edge. The pitch surface of an apparatus is the fanciful toothless surface that you would have by averaging out the pinnacles and valleys of the individual teeth. The pitch surface of a conventional rigging is the state of a barrel. The pitch edge of an apparatus is the edge between the substance of the pitch surface and the axis. The most natural sorts of incline gears have pitch edges of under 90 degrees and accordingly are cone-formed. This sort of slope equip is called outside in light of the fact that the rigging teeth point outward. The pitch surfaces of coincided outer angle gears are coaxial with the rigging shafts; the zeniths of the two surfaces are at the purpose of crossing point of the pole tomahawks.

SELECTION OF METHODOLOGY

1.Selection of bevel gear



2 Selection of Drive shaft



utilize inflexible driveshaft to convey control from a transmission to the wheels.

1. A couple of short drives M. Rama Narsimha Reddy, Design and manufacture of shaft driven bike, International diary of rising examination and technology,1 In this paper the client built up a model to pivot the back wheel of a vehicle with the assistance of propeller shaft the Engine is associated at the front piece of the vehicle. The pole of the motor is associated with a long bar. The opposite side of the long bar is associated with an arrangement of slant gears.

3.Placing of bevel gear



2. The slant gears are utilized to pivot the pole in 90 o edge. The back wheel of the vehicle is associated with the slope equip (driven). Along these lines the back wheel is turned in opposite to the motor shaft. Along these lines the bike will push ahead. As indicated by the bearing of movement of the motor, the wheel will be advanced or invert. This stay away from the utilization of chain and sprocket strategy Mayur linagariya, digneshsavsani, dynamic chainless bike, International diary of propel explore in designing science and innovation.

3. This creator likewise created shaft driven bike A pole driven bike is a bike that uses a determined shaft rather than an affix to transmit control from the pedals to the wheel. Shaft drives were presented over a century prior, yet were generally supplanted by bind driven bikes because of the rigging ranges conceivable with sprockets and derailleur. As of late, because of headways in interior rigging innovation, few present day shaft-driven bikes have been presented.

4. The pole drive just needs occasional oil utilizing an oil firearm to keep the apparatuses running tranquil and smooth. This "chainless" drive framework gives smooth, very and effective exchange of vitality from the pedals to the back wheel. It is appealing in look contrast and chain driven bike. It replaces the conventional strategy. haft is normally used to send control from a focal differential, transmission, or transaxle to the wheels.

4. Testing and correction



LITERATURE REVIEW

The principal shaft drives for cycles seem to have been imagined autonomously in 1890 in the United States and England. The Drive shafts are transporters of torque; they are liable to torsion and shear pressure, which speaks to the contrast between the info constrain and the heap. They accordingly should be sufficiently solid to shoulder the worry, without forcing excessively incredible an extra dormancy by righteousness of the heaviness of the pole. Most vehicles today

Focal points

- 1) Drive system is less inclined to wind up jammed.
- 2) Low cost of ownership when produced in vast.
- 3) High toughness.
- 4) Lower upkeep.

Detriments

- 1) *More torque at beginning of bike*

- 2) *Rider weariness at beginning since more power apply*
- 3) *Maintenance is required*
- 4) *Noise at fast*

Application

- 1) is use for hustling reason
- 2) It Also use for rough terrain riding
- 3) For cycling
- 4) For open and bike reason

Issues

At the point when anomalous vibration or commotions are identified in the drive shaft zone, this graph can be utilized to help analyze conceivable causes. Keep in mind that different parts, for example, wheels, tires, raise axel and suspension can likewise deliver comparable conditions.

PROBLEM	CAUSED BY	WHAT TO DO
AS BICYCLE IS ACCELERATED FIRST	TORQUE IS MORE REQUIRED	APPLY MORE TORQUE AT A STARTING
WHEN GEAR ARE NOT PROPER SHIFTING	RUSTING	CLEAN WITH OIL
VIBRATION AT HIGH SPEED	HIGH SPEED	MAINTAIN LOW SPEED
NOISE AT LOW SPEED	UNIVERSAL JOINT	APPLY GREASE ON UNIVERSAL JOINT
GEAR PITCH CIRCLE IS NOT COINCIDE	VIBRATION	ADJUST THE POSITION OF GEAR OR ALIGNMENT

CONCLUSION

Right off the bat the undertaking were not able be finished with the drive shaft because of different issues around circuit of the bike ,later on this was acknowledged to run effectively with two incline gears at both end of the drive shaft. The displayed work was meant to decrease the wastage of human power (vitality) on bike riding or any machine, which utilizes drive shafts; by and large it is accomplished by utilizing light weight drive shaft with slope equips on the two sides planned on supplanting chain transmission. The gave work additionally bargains outline enhancement i.e changing over rotational movement in straight movement with help of two angle gears.

Rather than chain drive one piece drive shaft for raise wheel drive bike have been ideally composed and produced for effortlessly control transmission. The drive shaft with the goal of minimization of weight of shaft which was subjected to the requirements, for example, torque transmission , torsion clasping limit , stretch, strain , and so on The torque transmission limit of the bike drive shaft has been ascertained by disregarding and considering the impact of diffusive powers and it has been watched that radiating power will decrease the torque transmission limit of the pole.

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