TREADMILL WAKING E-BIKE

Project Reference No.: 42S_BE_1020

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Keywords : Treadmill, Rollers, Solar power, Dynamo, Battery, Walking, Eco friendly and Health awareness

Introduction :
A treadmill is a device used for walking and running without changing the position of user. Treadmill equipment was introduced before the development of powered machines, to harness power from animals and humans. In the present times, treadmills are not used as power harness devices, but as exercise machines for health prospects, the machine provides a moving platform in the form of wide conveyor belt driven by rollers on which the user exercises. The belt moves to the rear, requiring the user to walk or run at a speed matching that of the belt to the front, The designing stage of the vehicle is carried out as several stages such as design of basic layout, proposal of working mechanism, design calculation and basic dimensions.

Background :
There has been great deal of research on this treadmill bicycle fabrication. The origin and use of the treadmill bicycle system began from several years ago and develop throughout the new concept revolution. At the late first century AD Roman Empire introduce first treadmill, as they need to lift heavy weight they incorporate this new invention. The workers walk within the treadmill having large diameter they could lift double the weight with half the crew. Treadmill which output is powered by animal and reduce human effort with more output compared to the applied input.

Objectives :
1. The treadmill bike works on man power and also the electric power
2. The walking speed of man is converted into thrice the speed of walking speed so that we can cover the more distance with same interval of time.
3. This bike also resembles the health and fitness of the person which represents the human has healthiest.
4. A treadmill in motion sends the signals and charges the battery simultaneously which makes the motion on the ride easier.
5. The rollers are more durable which gives more work output compared to input.
6. The bike is literally helpful for relaxed walk and it provides interesting cycling experiences which can be driven by all.
7. The movement of the treadmill belt which gives motion to the rollers which are further connected to gears by of chain drive which gives the forward movement to the bike.
8. Mainly it doesn’t require any fuel or external electricity to run the bike it is completely eco-friendly vehicle.
Methodology:

Materials Used
1. Rollers
2. Treadmill Belt
3. Front And Rear Wheel
4. Dynamo
5. Solar Panel
6. Battery ….etc

Methods:
When we walk over the belt, the roller will be rotated and it will rotate the spur gear shaft. Then the power will be transmitted to the wheel shaft through chain drive. The power from the battery is used for hub motor operation which will completely reduce human effort. The rollers are more durable which gives more work output compared to input. The methods were adopted by the previous inventions from some of the theories and old methods, which helped to develop a Treadmill into a Walking Bike. The methodology mainly runs in a step by step process which is easy to operate and handle the Treadmill bike for the user. The human effort is a basic fundamental being the driving source of the cycle. When the person or driver will walk over the treadmill belt he/she will rotate the gear attached to the rear end roller hub of the belt support. The belt will rotate the gear and then the gear will turn the rear wheel with a chain drive and sprocket involved to maintain speed ratio. The main aim is to develop the bicycle into a Treadmill Electric Bike which uses man power and also Electric power to run the bike by just walking on the treadmill floor of the bike.

Result and Conclusion:
A well fabricated, eco-friendly, economical treadmill bike prototype which uses human energy to develop speed.

Exercise
- Treadmill bicycle helps in maintaining proper physique. Physical fitness is of utmost importance in day to day life.
- People often get bored while exercising in a closed room such as gym. By using treadmill bicycle one can exercise outdoors in fresh air.

Fuel saving
- People often use vehicle for travelling over short distance. This causes unnecessary wastage of fuel. Due to use of treadmill bicycle over short distance a large amount of fuel can be saved.

Travelling
- Treadmill bicycle can be used for travelling over short distances. One can also exercise while travelling over short distance.

Eco-friendly
- Treadmill bicycle does not require any fuel. Therefore it does not emit any pollutants. So it is an eco-friendly vehicle.
Scope For Future:

1. Does Not Require Any Fuel
2. It Does Not Emit Any Pollutants
3. It Is An Eco-Friendly Vehicle.
4. Bicycle Over Short Distance A Large Amount Of Fuel Can Be Saved.
5. Physical Fitness
6. Helps In Maintaining Proper Physique