

Magnetic Engine

Magnetic head to head collision repulsive piston engine (MHCRPE)

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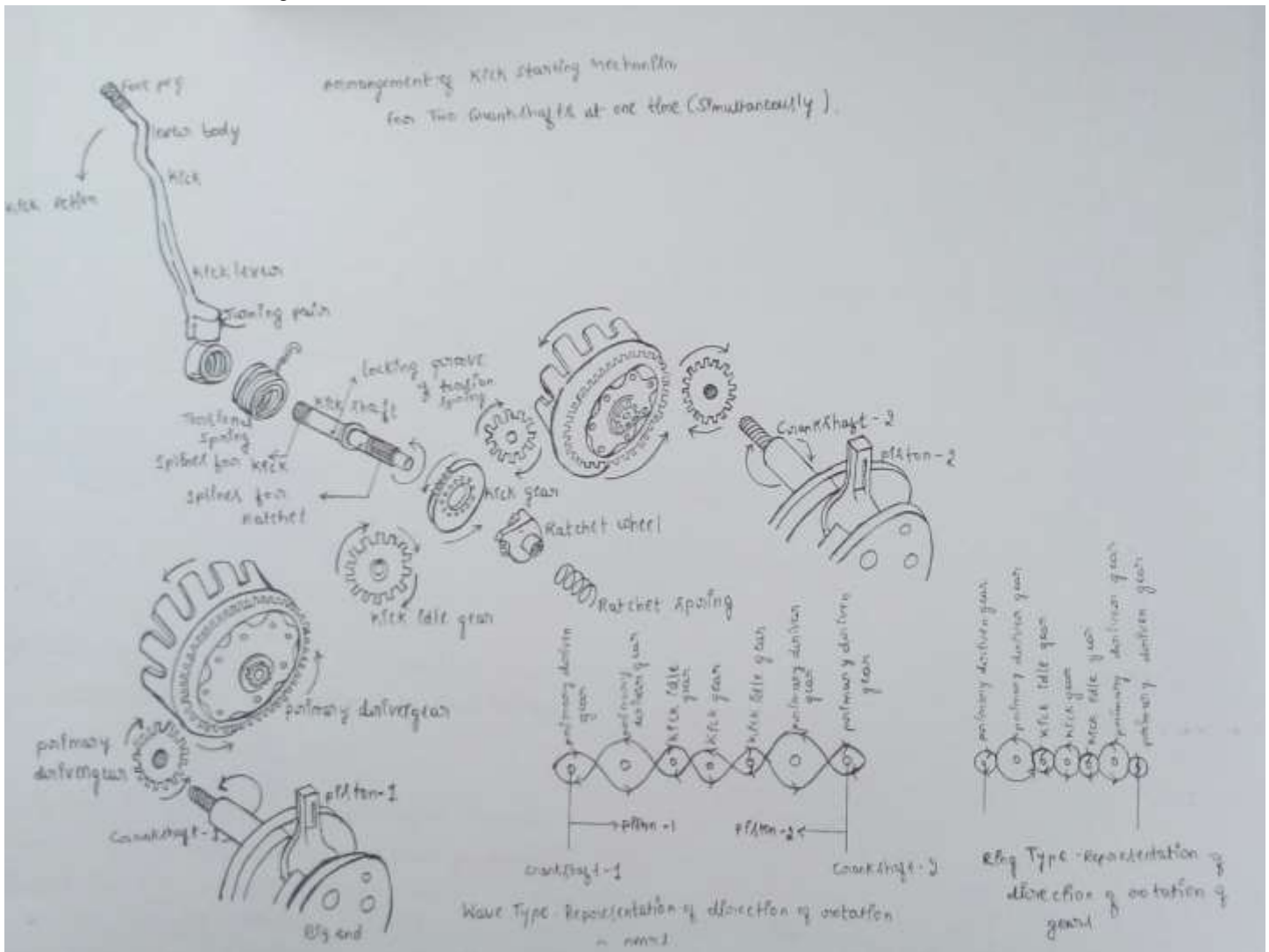
Study: Under graduating B Sc from Govt first grade college, Bannur-571101.

Introduction:

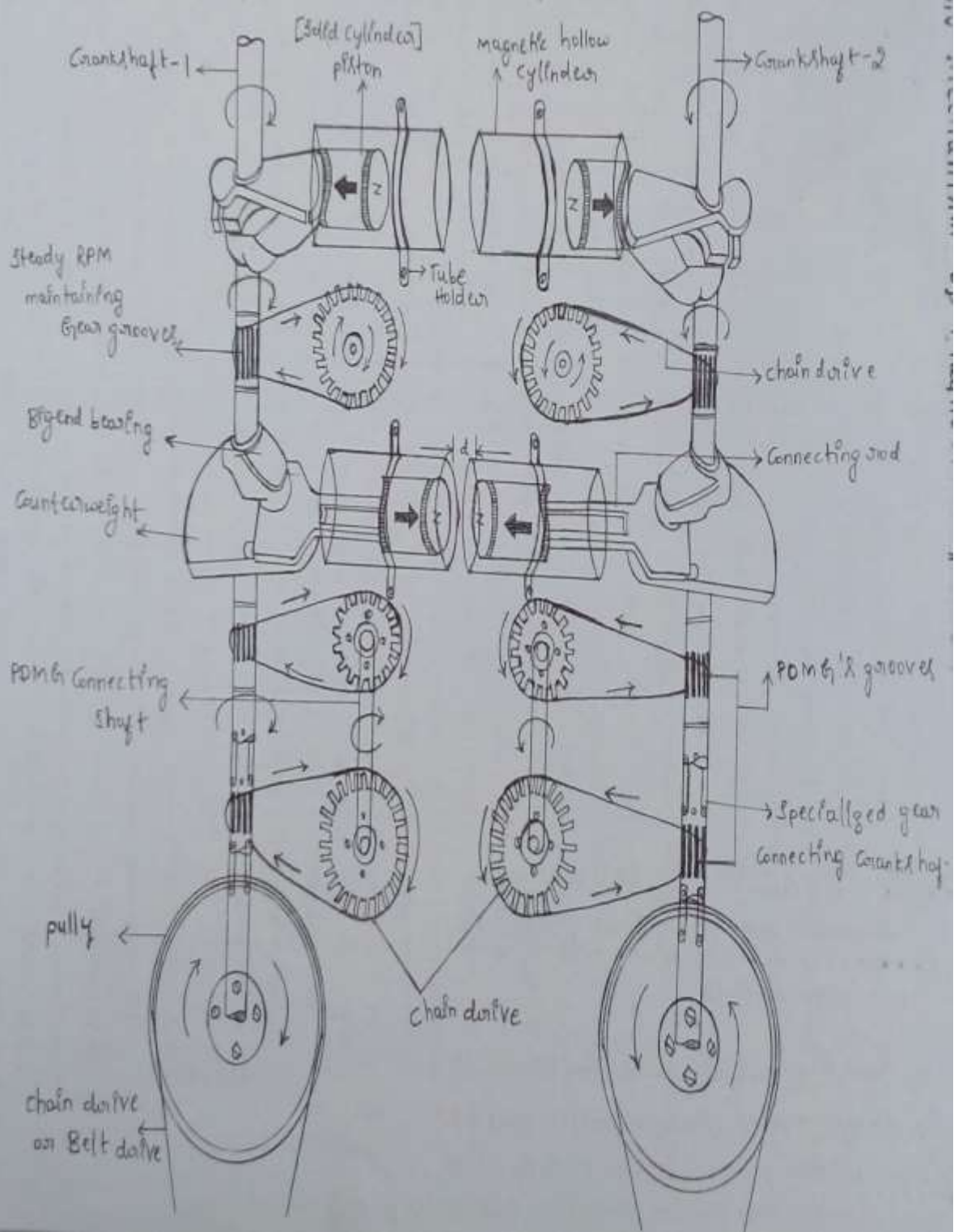
Now a days, we are using bike, car, bus, etc for transportation. As we known petrol or diesel required to run them. Mainly those fuels are from natural resources, so we have been using those fuels exclusively. Now it is at the stage of extinction. The combustion of those fuels caused global warming, which in turn affected the earth atmosphere and weather.

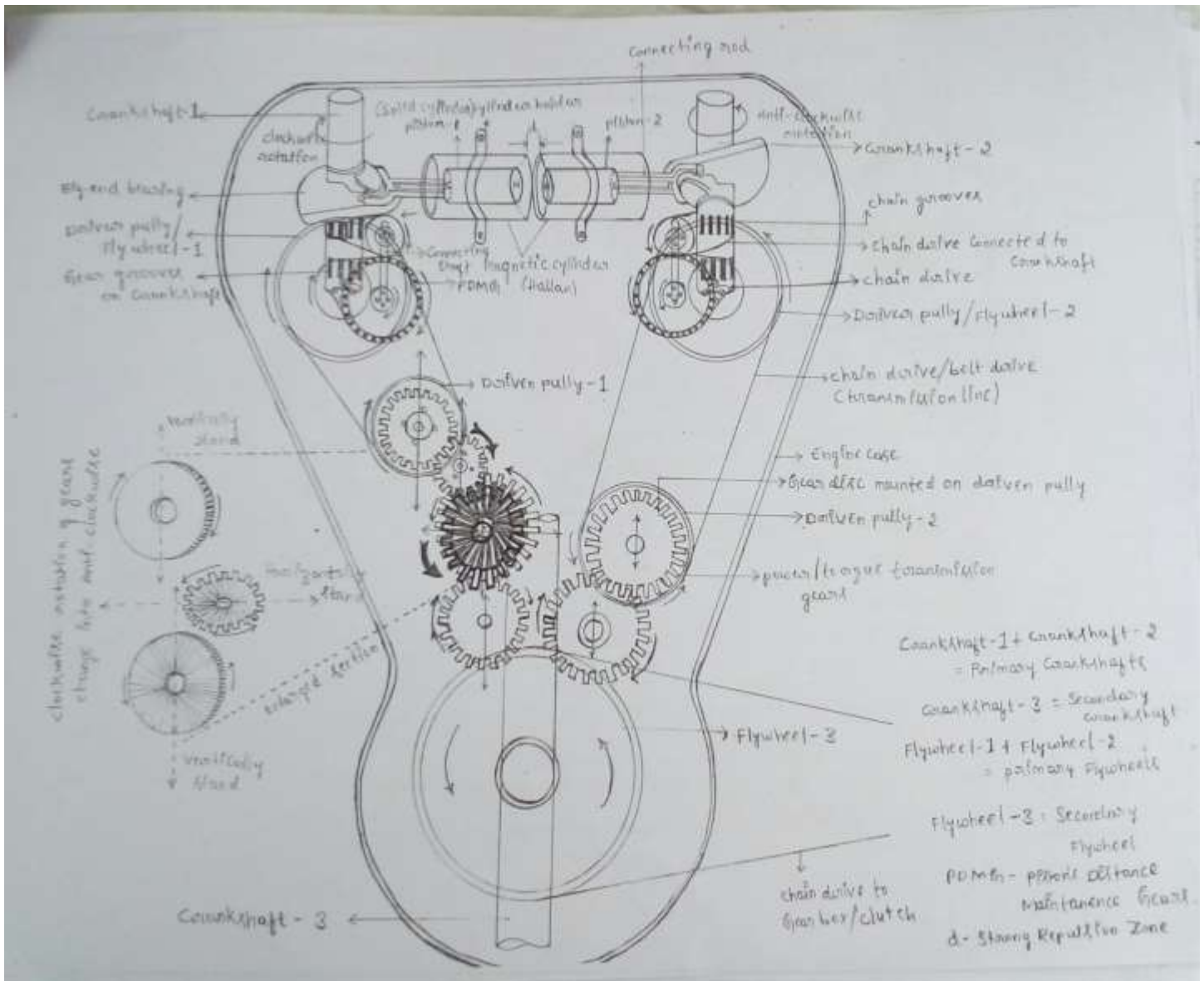
In order to overcome those problems we required an energy efficient fuel or engine. Hence I developed a magnetic engine, that will operate without any fuels such as petrol, diesel, even bio-fuel. And it is energy efficient. It is not producing any harmful gases, because of there is no any combustion takes place in the engine.

The main principle of the magnetic engine is "Huge repulsive between two highly powerful magnetic fields cause the engine work". Now let us start with some Figures.



Horizontally Arranged 4-Cylindered Magnetic Engine.





Working mechanism of magnetic engine

When kick force is given to the two crankshafts simultaneously, the two pistons come to interact to each other by the force of kick through crankshaft. As the two pistons interact each other, they can experience the Repulsive force due to N-N pole face to face interaction. If once the two pistons met the distance 'd', the strong repulsive zone, they get strong repulsive force and the force is delivered into their crankshafts through respective connecting rods. To maintain the smooth movement in piston's working mechanism, two magnetic hollow cylinders are provided, which gives one more repulsive force to the pistons at diameter side and to eliminates friction.

The primary flywheels or pulleys are considered as Flywheel-1 (left side) and Flywheel-2 (right side). These are connected to their respective crankshafts. The primary flywheels are in same size and weight. Each crankshaft contain long gear grooves at their end position, neat to the flywheels, which is connected with piston's distance maintenance gear [PDMG] and PDMG is connected with an another small gear through connecting rod/ shaft. The small gear is connected to the crankshaft by chain drive. The PDMG has more size than the small gear, that's why the chain drive is required. This type of interconnection is helpful in maintaining the proper distance between the two pistons such way that the two pistons met the distance 'd' at same time to get strong repulsive force.

Each primary flywheels act as like driver pulley and connected to driven gears by chain drive. One of the driven gears arrangement is different from another, because to achieve the one type direction of rotation. The driven gears are mounted on their respective driven pulleys. If Flywheel-1 is rotating in clockwise direction and Flywheel-2 is rotating in Anti-clockwise direction, then any one of those direction of flywheel should be converted into another direction, it means the flywheel-1 and flywheel-2 direction of rotations should be one and the same to operate the flywheel-3 but actually the two primary flywheels are not rotating in same direction, so we have to convert any one of the flywheel's direction of rotation to another direction of rotation. When driven gear-1 (left side mechanism) is connected to another horizontally arranged gear, it receives the rotating power from the driven gear through its inner grooves and starts to rotate as disc. The disc gear delivers the same power to another gear, that gear rotating vertically. The disc gear delivers the power to flywheel-connected gear through its outer groove. Now the third flywheel connected gear is exactly rotating in opposite direction to the driven gear and the flywheel connected gear is connected to secondary flywheel or flywheel-3. Here the driven gear is rotating in clockwise direction and it is converted into anti-clockwise direction because the secondary flywheel receives only one direction of rotation that is either clockwise or anti-clockwise direction of rotation but not both at one time.

Where, in right side mechanism the driven gear-2 is directly connected to flywheel-connected gear, there is no arrangements here as in left side mechanism due to there is no requirement. The right side gear's power reaches the secondary flywheel before the left side gear's power. So secondary flywheel gets the power from right side firstly and the power from right side secondly. The right side gears responsible for start or initialize the rotation of secondary flywheel and maintain proper speed of rotation of flywheel. Where, the left side gears deliver the rotating power to the flywheel at later but increases the rpm flywheel. However, the flywheel gets the power from both left side and right side. Where, secondary flywheel is twice in the size of any one of the primary flywheels and it has mass that is greater than the combined mass of both primary flywheels. Due to high mass and size in secondary flywheel, it catches better torque and power and it can be controlled as well as delivered into gearbox.

The principle applied here are, Magnetic repulsive force by N-N pole interaction and Number of rpm of primary flywheels should be greater than that of number of rpm of secondary flywheel.

We can not control the two primary crankshafts directly or by indirectly, because these crankshafts are moving/ rotating at higher speed and torque and in higher rpm. If we try to control the primary crankshafts, it requires more mechanisms and arrangements and there is no guarantee to proper function of engine. In order to get proper functions we need secondary crankshaft or third crankshaft but it should draw all the power from primary crankshafts.

If once the secondary flywheel catches the power from primary flywheels, it can be controlled easily by clutch and gears and then connected to rear wheel.

RPM conditions

1. The number of rpm depends on the magnetic strength, means the force from the repulsion. If magnetic strength is more, then rpm is more.

That is primary rpm directly proportional to strength of magnets.

2. In case of secondary rpm, is little bit lesser than or almost equal to the primary rpm. It depends on the primary rpm and its weight (flywheel) as well as friction.

That is secondary rpm directly proportional primary rpm and weight of flywheel as well gear's friction.

In case of primary rpm, weight does not affect engine work, it is negligible due to, the two pistons and its system are rotating simultaneously with same rpm and with same speed as well as with same torque.

Efficiency of Engine

The efficiency of the magnetic engine mainly depends on

1. Magnetic strength

- 2.Number of rpm
- 3.Weight of flywheels and grand total of engine weight
- 4.Frictions between the gears.

Note: where, engine weight +load on the vehicle =grand total weight

If magnetic strength and number of rpm increases, automatically efficiency increased. When, weight of the engine or load on the vehicle increases, the efficiency of engine decreases correspondingly.

Mathematical expression for engine efficiency

$$(\text{Efficiency})_{\text{engine}} = (\text{magnetic strength} + \text{number of rpm of third flywheel} / \text{grand total weight} + \text{friction b/n gears}) * 100$$

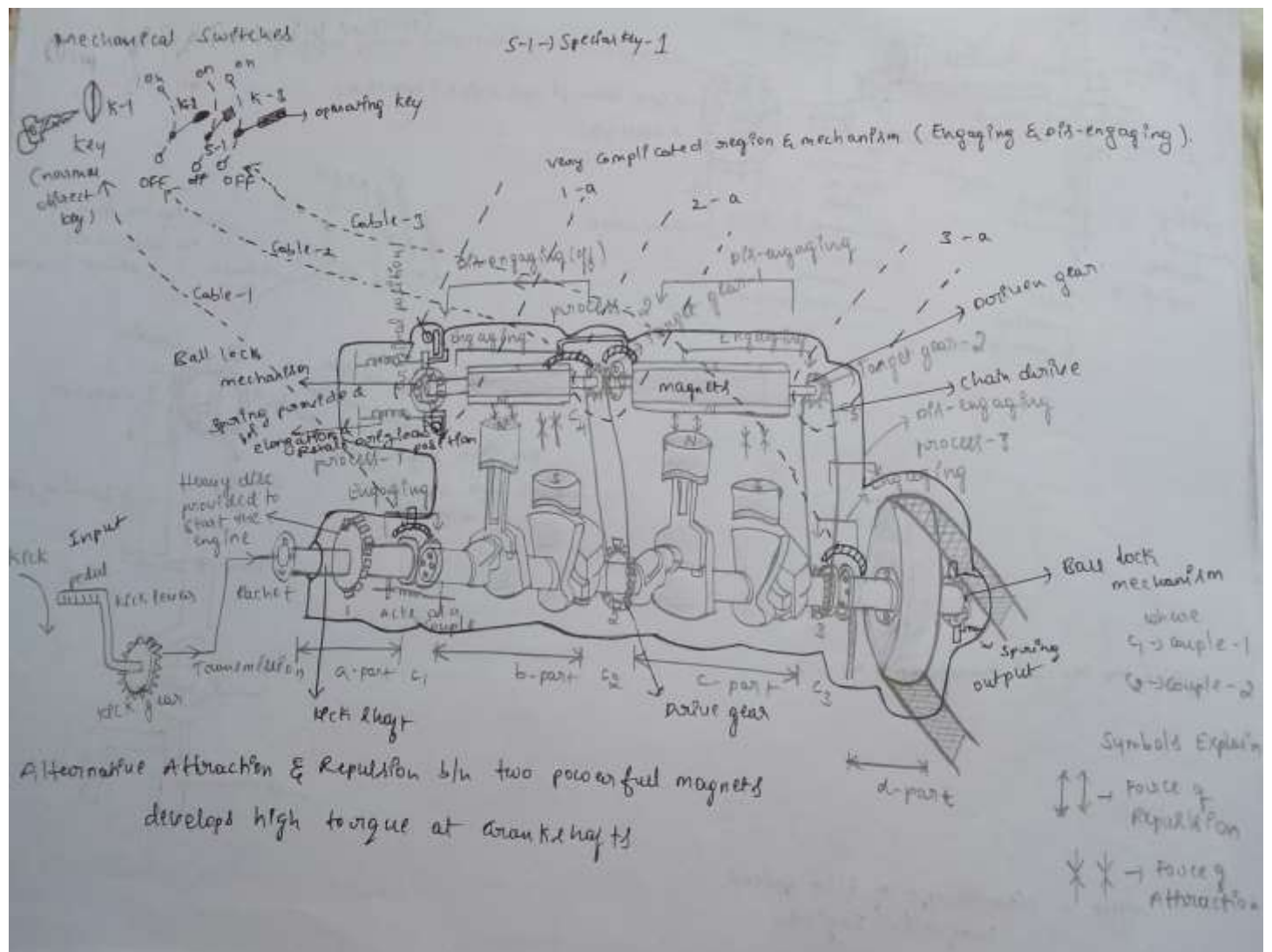
I thought, the engine efficiency is almost 98% due to proper functions and arrangements. Where, 1% loss of engine efficiency is due to weight and another 1% is due to friction of gears. We cannot recover these 2% loss of engine efficiency, because we cannot completely eliminate the friction from gears and load or weight on vehicle.

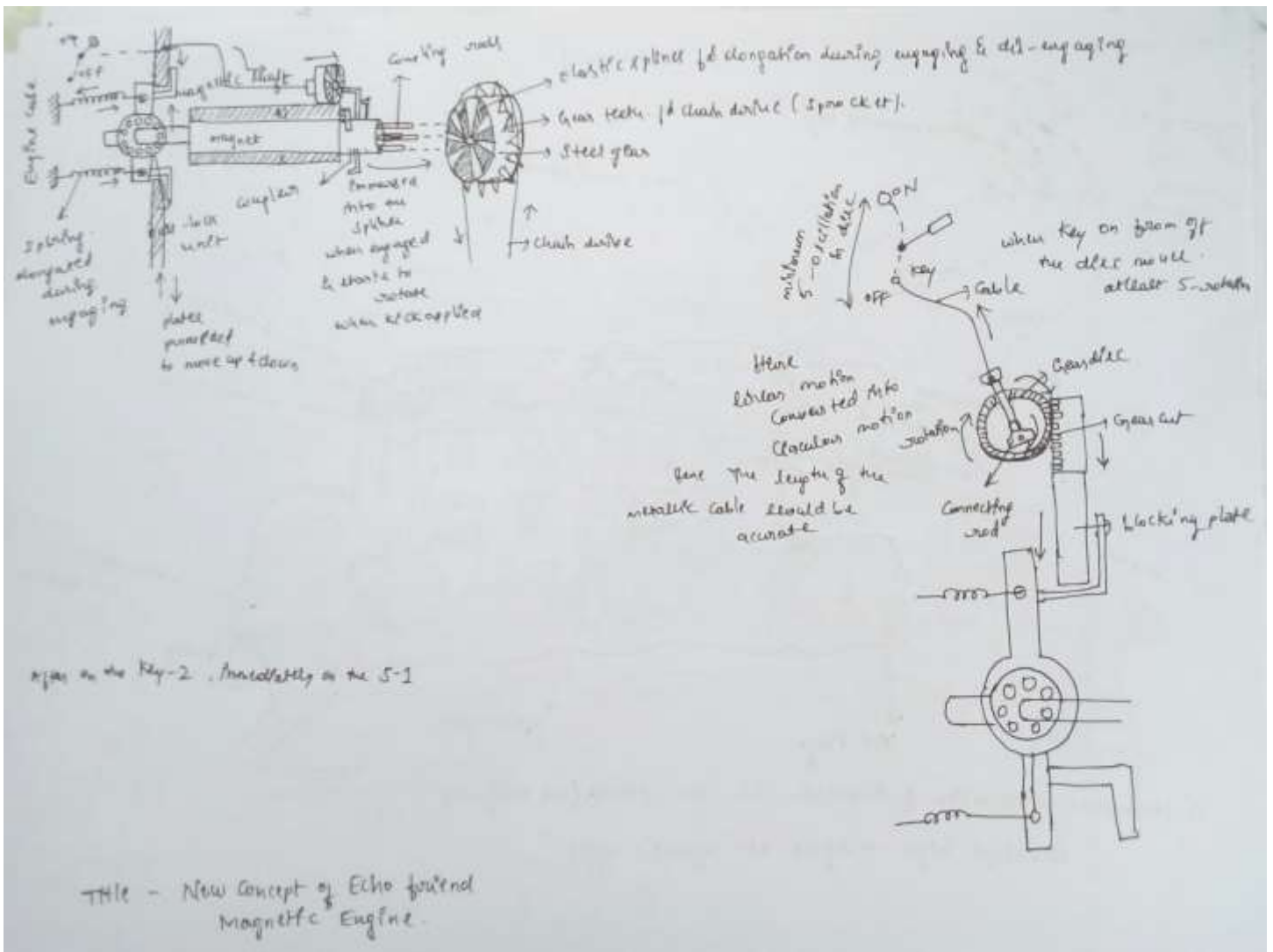
Advantages of Engine.

- 1.It is not work by organic fuels such as petrol, diesel, or bio-fuel, so no need to worry about filling fuel again and again.
- 2.Easy to construct and low cost.
- 3.Maintenance cost is low
- 4.It has long life and yields good efficiency.

Disadvantage

It requires frequent lubrication for gears.





It is a developed model of the very beginning picture.

In this model, the process of engaging and dis-engaging of couples are the fundamental mechanism involved in the engine operation.

Here, 3-keys are required to start the engine.

When, turned on the key-1, kick shaft coupled with crankshaft of engine by ball-lock type mechanism.

When, turned on the key-2, the big magnets come to couple with driven gear by elastic side lock mechanism.

When, turned on the key-3, the flywheel (output) comes to couple with crankshaft of engine by lock type mechanism.

Now, these 3 processes are responsible for engage the engine's working parts. When kick force applied, the kick shaft get the huge force by gears transmission and by heavy disc through Ratchet wheel.

Where, the heavy disc is provided to start the engine, means it consumes the amount of force required to start the engine. The kick force makes the rotary motion in crankshaft, if and only if key-1 is turned on means, kick shaft should be coupled with crankshaft. When, crankshaft gets rotary motion, the pistons start to move towards upper end, the drive gears mounted on the same crankshaft. Drive gears also get motion and drive the driven gear by chain.

The driven gear, catches the rotary motion and starts to rotate to magnets if and only if key-2 as well as special-1 are turned on. Initially, the north pole of Big magnet face the north pole of piston's magnet and rotate slowly, after successive repulsion and attraction make the oscillation faster, so crankshaft gets more torque by this process and it delivers the rotating force to flywheel if and

only if key-3 is turned on. The fly wheel get rotary motion and delivers to gear box either by chain drive or by belt drive. This is the total working mechanism involved in this engine.

Explanation for shut down the engine work:

First, turn off key-3, means dis-engage the flywheel then the force in gear box gradually attains to zero at the end gears in the gear box lose the total power and stop, then vehicle stop instantly. But still engine is under working to shut down the engine work, turn off the key-2 and special key-1 and turn off the key-1.

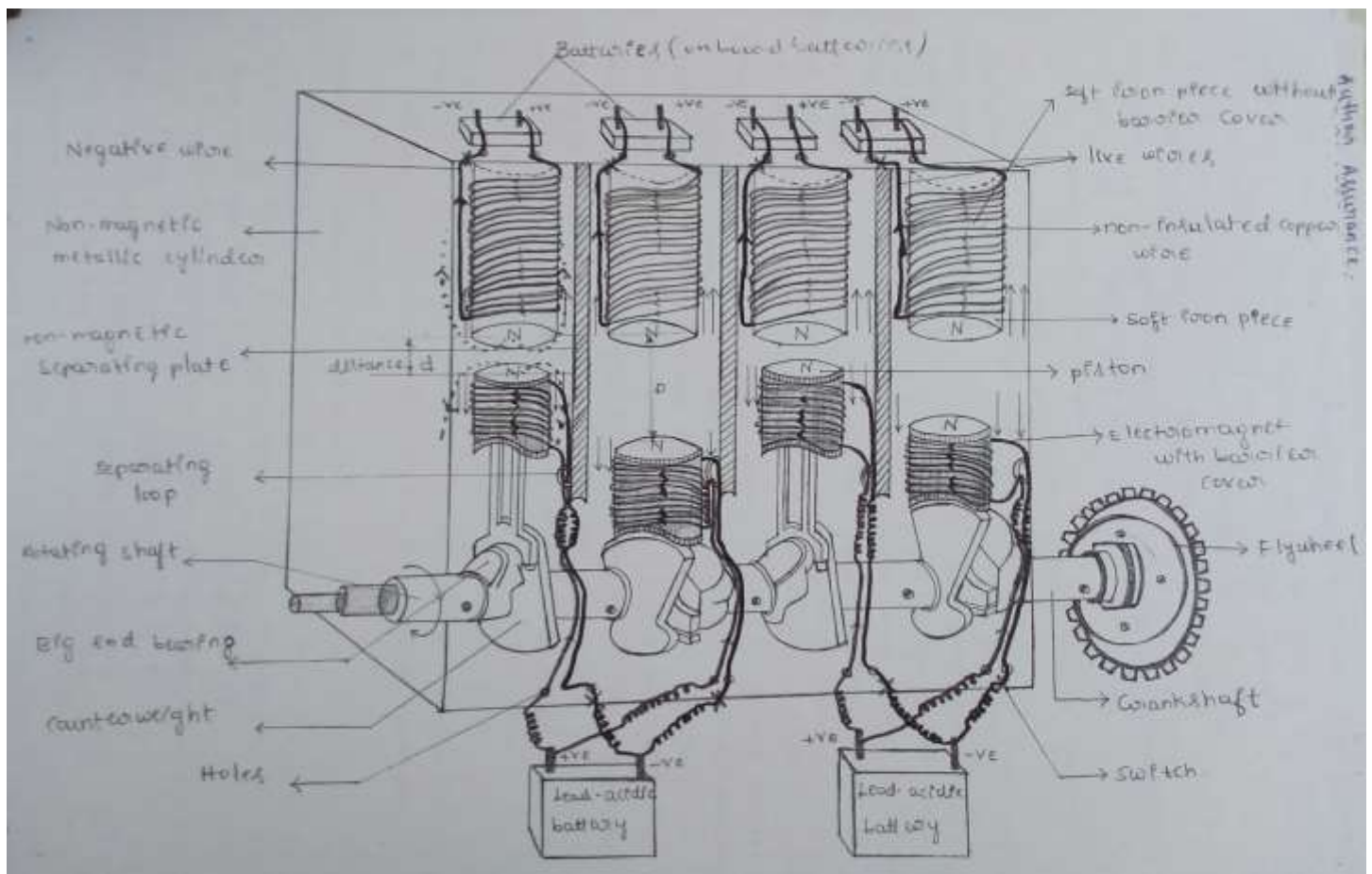
When, turn off the key-2, the process dis-engage takes place in big magnets and these magnets come to their original position by provided spring and its power become zero at last but crankshaft force and driven gear force become zero at finally.

When, turn off the key-1, the kick shaft is dis-engaged by crankshaft and its force become zero. So, now all working parts of the engine are dis-engaged. Now, total force in this mechanism is zero.

Here, the ball lock type mechanism works under only at dynamic state or when coupled each other, otherwise it will not work at static condition(dis-engaged condition). All mechanism involved in this engine are worked by mechanical and magnetic forces. The total engine structure can be split into 3 parts and it can be engaged into one whole part, at on condition. At off condition, the engine acts as 3 dis-engaged parts. It is totally a marvelous mechanism.

I think, this much idea is enough to draw mechanical circuits and improve it further.

Here, we used permanent magnets for piston repulsion, instead of this we can use electromagnet for greater efficiency but there is lot of complication, still I am developing and you can develop permanent magnetic engine.



Author Assurance.

I got this idea, when I was studying second puc (2014). Especially, when I interested in maglev vehicles as well as application of magnets.

I did not copy any others idea even from internet and as I thought , I have written here.