

Electro Magnetic and Automatic Braking System



B.Selva Babu, Irshad Abdurahiman, Midhun Krishnan, Sahil Joseph Shelvan

Abstract: In this venture we have planned and foundation, Electromagnetic circle stopping mechanism in order to have a future option in contrast to customary breaking frameworks Electromagnetic circle stopping mechanism eases back an items by making a vortex current through electromagnetic enlistment which make obstruction.

Key words: Eddy Current, Electromagnetic Braking System and Electromagnetic field

I. INTRODUCTION

Framework designed to build up another framework that can take care of this issue where drivers may not brake physically be that as it may, the vehicles can stop consequently because of snags [1]. The breaking structure of security can be controlled by endeavor. The transmitter transmits the wave and beneficiary obstacle is perceived. The tangles are identified by sensors in the breaking shakes. After getting signals from the sensor the vehicle got signals from the sensor [2].

A.Principle

The whirlpool streams are made by the circle entering in the movement. The change acknowledged by the turning circle for the field limit. In case the appealing the page of activating alluring field in the page. The current is standard and used by the clockwise method. The plate to an end rapidly will bring about a limited quantity of warmth being delivered by the swirl flows and carry the current. The electromagnetic plate is shown in fig.1 and fig. 2 shows the disc plate.

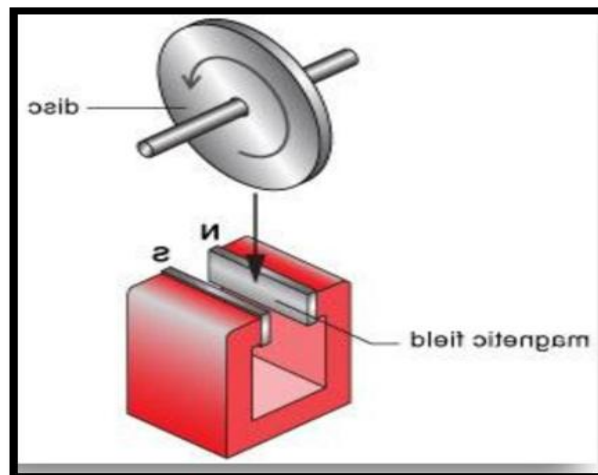


Fig 1 Electromagnetic plate

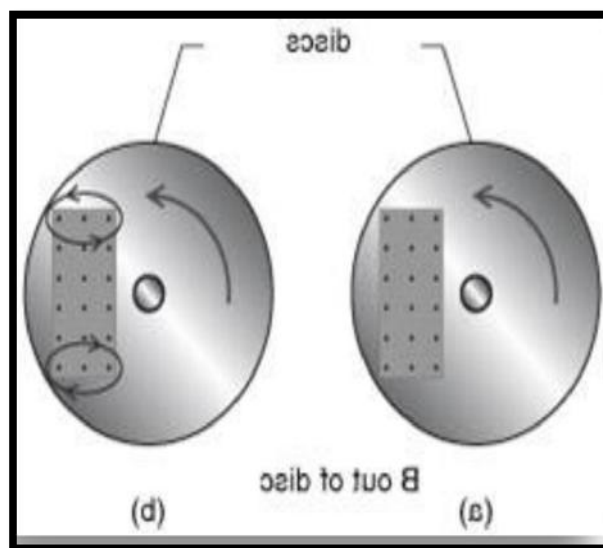


Fig 2 Disc plate

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II. TYPES OF BRAKE

A. Disc brake

The disc brake is shown in fig. 3.

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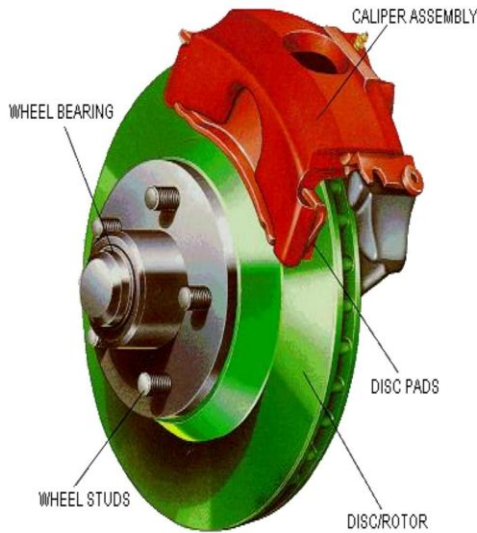


Fig 3 Disc brake

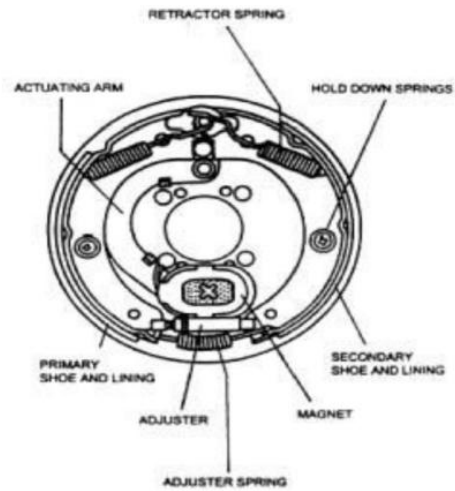


Fig 5 Hand brake

B. Air brake

The standard and water fueled air control with the mechanism parts, for example, braking lines, wheel chambers and a slave chamber like an ace chamber to transmit the gaseous tension delivered braking vitality to the wheel brakes [3]. The air brake system is shown in fig. 4 and air powered brakes are utilized as often as possible and required for the more noteworthy braking limit.

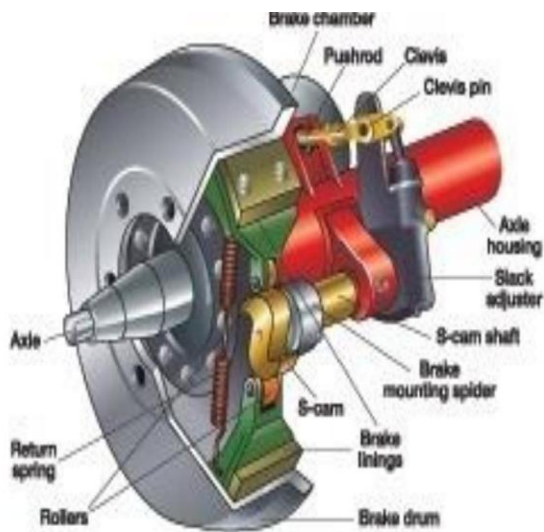


Fig 4 Air Brake

C. HAND BRAKE

Fig.5. Shows hand brake system and brakes are the halting or emergency brakes. They makes vehicle leave on an inclination or during emergencies at the point when essential brakes are incapacitated [5].

III. PARTS USED

- Disc Plate
- DC Motor
- Transformer
- Electromagnets

IV. PROPOSED SYSTEM

A. Disc

The iron diminishes the cast-iron by the material in regular dimension. The structure of some iron is solid, and some irons are not covered with the equalization and it has two contact surfaces. Fig.6. shows the disc plate.



Fig 6 Disc Plate

B. Dc motor

DC engine is an electric engine changes over energy of mechanical. Generator dynamo accomplishes the mechanical development into the essentialness of electrical. The DC motor is shown in fig. 7. A great part of the time the two contraptions are indistinct except for their application and minor improvement nuances.



Fig 7 DC motor

C. Transformer

An electric stream spilling in careful makes appealing field covered by wire (see drawing underneath). The electromagnetic wire is contorted into the circle by many wires lying in it with various turns of wire lying by one another. The appealing field with significant number of turns in the point of convergence of the twist, making and strong appealing field there is covered. The transformer is shown in fig. 8.



Fig 8 Transformer

D. Electromagnets

Electromagnets are widely used in electromechanical and electric gadgets consist of following factors:

- i. Transformers
- ii. Electric ringers
- iii. Engines and generators
- iv. Transfers, including reed transfers at first used in telephone dealers
- v. Recording devices
- vi. VCRs, hard plates
- vii. Logical instruments for instance MRI machines and mass spectrometers
- viii. Molecule quicking specialist

E. Chain

A mechanical control is operated by a chain drive shown in fig. 9. Two places it is ordinary strategies for speed in bicycles what's more, cruisers. It is a Ismotive hotspot for a wide scope of sorts of mechanical assembly. Chain drives have existed as an advancement.



Fig 9 Chain

V. RESULTS

The working model of the system is shown in fig.10.



Fig 10 Working model of the system

VI. CONCLUSION

The vehicle speed control and automatic braking framework system has been effectively structured. Coordinating highlights of considerable number of parts have utilized created it. The best working of the unit has the contribution of each model contemplated to best contemplate. The exceptionally propelled IC's are utilized by the assistance of developing innovation the task has effectively actualized.

VII. APPLICATIONS

- i. Business vehicle
- ii. Building lift
- iii. Enterprises machine

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