BARISAL ENGINEERING COLLEGE

DURGAPUR, BARISAL

LAB REPORT

DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

Course Title : ELECTRICAL CIRCUIT (II) SESSIONAL

Course Code : EEE-1202

Name of Experiment : Studying the electromagnetic mechanism of a typical Calling Bell.

Date of Experiment :

Experiment No. : 07

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Experiment Name: Studying the electromagnetic mechanism of a typical calling bell.

Objective: By completing the experiment we will learn how an electromagnet works. We will also know the mechanical use of electromagnet.

Theory: The electric calling bell is a simple circuit that triggers a sound on the completion of circuit by pressing the push-switch. It works on the principle of electromagnetism.

Electromagnet is a type of magnet where magnetic field is produced using electric current. When electric current flows through a wire tied around an iron

rod, the iron rod behaves like a magnet. The iron rod around which the wire is wound is called a solenoid.

The wire is wrapped around the iron rod many times to have the intensity at a high level. When the electric current is supplied to the wire, the iron rod behaves like a magnet.

For an electric calling bell the circuit is completed using a push switch. Once the switch is pressed the current flows through the circuit and the solenoid works as a magnet to attract the iron rod.

Parts of a calling bell: ① Armature ② Spring ③ Armature Rod ④ Hammer & ⑤ Gong

Circuit diagram:

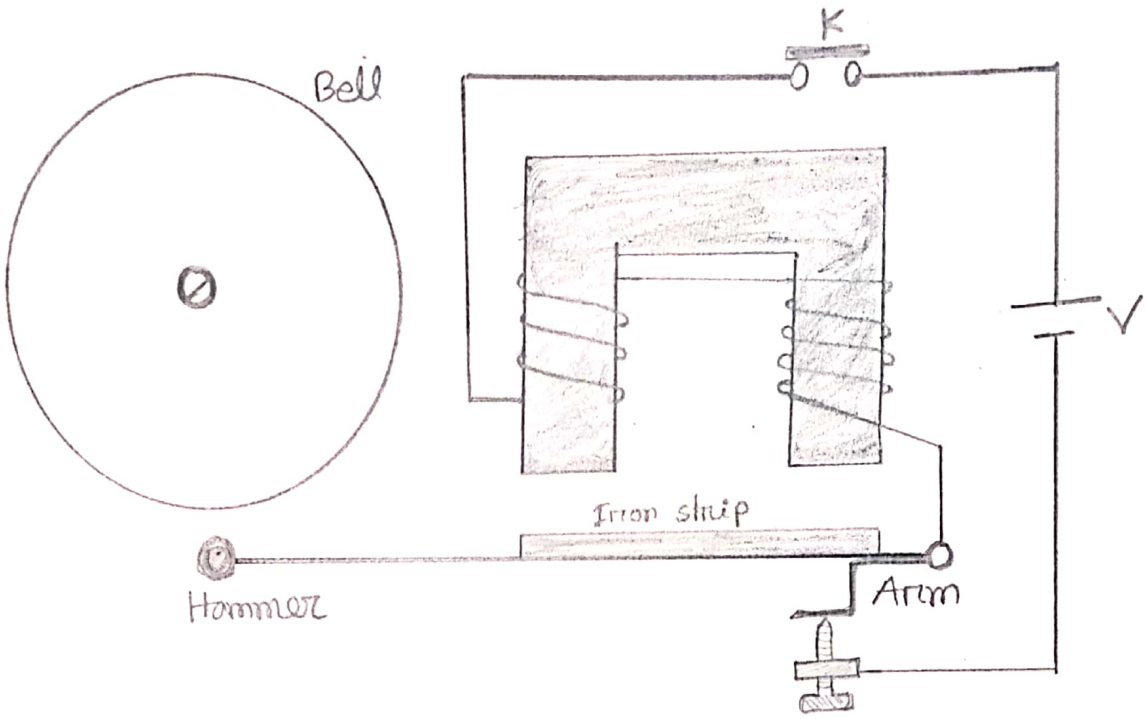

Figure : Calling Bell circuit

Working process of an electric Calling Bell:

1. The switch is pressed & the current flows through the circuit.

2. The electromagnet is powered and generates a magnetic field that attracts the iron strip towards it.

3. The striker strikes the gong (bell)

4. When the striking arm (hammer) strikes the gong, the contact is broken and current stops flowing through the circuit.

5. This causes the electromagnet to lose its magnetic field.

6. The connected spring arm returns the striker to its original rest position

Uses of Electric Calling Bell:

These are used in places like railroad crossing, in telephones, doorbells, fire and burglar alarms, school bells.