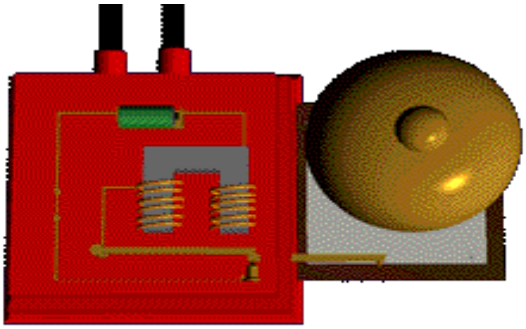
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Electric Bell

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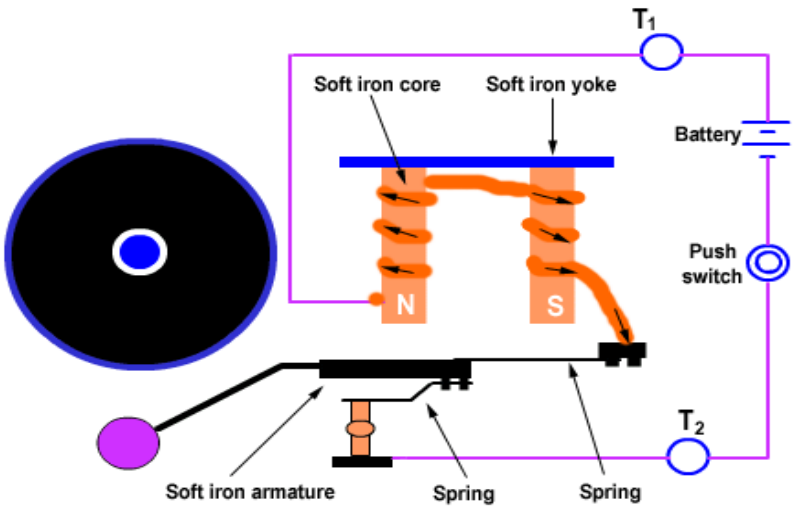
Introduction to electric bells

An electric bell is a mechanicalbell that functions using the priciple ofelectromagnetivity. When current is applied, the bell produces a repetitive buzzing or clanging sound. Electrical bells consist of an electromagnetic unit that is disposed between two spring leaves, and a stem that can be driven to strike the spring leaves.



What is an electric bell?

When the switch is pushed 'on', current flows through the coil, and the coil becomes an electromagnet. Consequently, it attracts the metal strip and moves the clanger to hit the bell. However, it also breaks the circuit, which causes the coil to no longer be a magnet, and causes the clanger to move back. The circuit will then be reestablished, and the bell will keep ringing until the switch is released.



How an electric bell works

An electric bell has six important parts:

1. Electromagnet

2. Armature

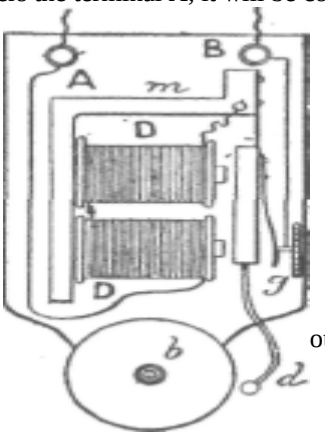
3. Spring

4. Armature rod

5. Hammer

6. Gong

An electric bell essentially consists of an electro-magnet and a vibrating armature piece that oscillates in front of it. If a current enters the terminal A, it will be conducted through the coils D of the electro-magnet, which has iron cores, and pass



out through the metal of the armature, the contact screw, g, and the terminal B. Such a current will, of course, cause the electromagnet to draw the armature down on to its terminate. The armature is attached by a flexible steel spring to the framework to make this movement possible. In the act of drawing down the armature, however, the contact of the screw with the armature spring is broken, and since this contact forms part of the electric circuit, the current will cease to magnetize the electro-magnet; the armature will, therefore, no longer be attracted and will spring back by virtue of the steel spring, and contact between it and the screw, g, will be restored. Consequently, the same operation will be repeated. Motion takes place very rapidly to and fro, and is communicated to a light hammer, d, that strikes the bell, b, and produces a continuous and loud ringing sound. The whole apparatus forms a simple method of drawing attention from a distance, and can always be relied on to work.

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Reference links:

- http://www.en.wikipedia.org/wiki/Electric_field

- http://www.windows2universe.org/physical_science/magnetism/magnetism.html
- http://en.wikipedia.org/wiki/Electromagnet
- http://www.practicalphysics.org/go/Experiment_328.html

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