Solenoid and Relay

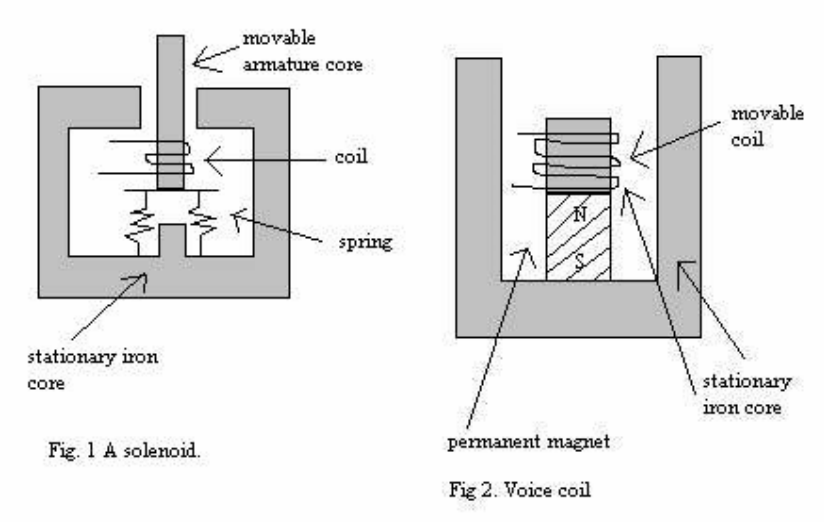

Fig. 1 A solenoid.

Fig 2. Voice coil

Basic Principle

Solenoids use the basic principle of electromagnetism.

A coil is wrapped around a metal core. When a current is passed through the wire a magnetic field is formed.

Usually a metal piston is located outside the end of the wire. When the switch is switched on the magnetic field attracts the piston.

Relay:

A relay is worked off the same principle as a solenoid however it powers a smaller load. A is a small switch that when is switched on causes the solenoid to switch on a big circuit. Eg. ignition system in a car. When you turn the key you are operating a relay which causes a solenoid to allow a current into the starter and start the engine.

Animation:

http://www.youtube.com/watch?v=SwqM8zpmAD8