desired gap. As the disc drops below the setpoint, the control unit allows more current through the electromagnetic coil. If the disc rises above the setpoint, the control unit allows less current through the electromagnetic coil.

In addition, the data on the distance between the bottom of the top piece and the top of the magnet on the disc, is also used to turn the LED on and off. When the disc is within a predefined distance from the setpoint, the control unit turns on the LED and electromagnetic coils, otherwise the LED and electromagnetic coils are turned off.

The above description relates to a configuration wherein the disc is positioned beneath the electromagnetic coil. The configuration may also be turned around, wherein the one or more electromagnetic coils and one or more permanent repelling magnets are placed beneath the disc comprising the magnet, whereby the relation between increase of current and increase in levitation is inversed. In practice stabilization of the plastic disc in the upside down configuration is improved by using two or preferably three or more electromagnetic coils and multiple permanent magnets. The use of multiple electromagnetic coils facilitates the control of the disc better, because a magnet above a single electromagnetic coil tends to fall away from the electromagnetic coil much easier than a magnet beneath an electromagnetic coil because of gravitational forces exerted on the magnet. In a configuration with three electromagnetic coils arranged in a triangular position in the horizontal plane, the current through individual electromagnetic coils may be controlled by the control unit, whereby the magnet is held in a stable position above the electromagnetic coils configuration.

Instead of a permanent magnet, any ferromagnetic material may be used. A permanent magnet is an object made from a material that is magnetized and creates its own persistent magnetic field. Materials that can be magnetized, which are also the ones that are strongly attracted to a magnet, are called ferromagnetic. These include iron, nickel, cobalt, some alloys of rare earth metals, and some naturally occurring minerals such as lodestone. Although ferromagnetic materials are the only ones attracted to a magnet strongly enough to be commonly considered magnetic, all other substances respond weakly to a magnetic field, by one of several other types of magnetism. So the other substances may be used as well, but the application in the