Shock Prevention The electrician pictured is installing a General Electric Ground Fault Interrupter (GFI), a device which provides protection against electrical shock in the home or in industrial facilities. Shocks due to defective wiring in home appliances or other electrical equipment can cause severe burns, even death. As a result, the National Electrical Code now requires GFIs in all new homes constructed.

This particular type of GFI employs a sensing element which derives from technology acquired in space projects by SCI Systems, Inc., Huntsville, Alabama, producer of sensors for GE and other manufacturers of GFI equipment. The sensor is based on the company’s experience in developing miniaturized circuitry for space telemetry and other spacecraft electrical systems; this experience enabled SCI to package interruptor circuitry in the extremely limited space available and to produce sensory devices at practicable cost.

The tiny sensor measures the strength of the electrical current and detects current differentials that indicate a fault in the functioning of an electrical system. The sensing element then triggers a signal to a disconnect mechanism in the GFI, which cuts off the current in the faulty circuit.