

How a Thermostat Works

When you turn a thermostat up or down, you don't usually consider why or how it works it just does. It shows how far we've come from living under a rock to controlling temperature with the turn of a dial. The thermostat was invented by Albert Butz in 1886 when he was trying to find out how to automatically control the heat in his house.

The key component of a bimetal thermostat is a thin strip made from two dissimilar metals that expand at different rates when heated. This strip is part of a circuit that when it is heated it will slowly rise up until it hits a metal contact that will complete a circuit and send a signal to the furnaces to stop running. This allows for an easy way to control the temperature in a house that is simple and automated.

In order to change the desired temperature a dial is attached that when turned, turns a screw that elevates the contact so that it takes longer for the bimetallic strip to rise to the contact, thus letting the room heat up longer before the contact is hit and the heat shuts off. The reason the furnace isn't constantly turning on and off is because the bimetallic strip takes time to bend and reform.

In conclusion the bimetal thermostat is a simple and effective way to control the heating of a house. The simplicity of it's design makes it so that not only does it work, but work reliably and easily. Unlike digital thermostats that have schedules and are programmed, the analog thermostat is just easier to use.