

In the 1860s with the introduction of paraffin the oil lamp became very popular and was one of the leading sources of artificial light until it was overtaken by gas and electric lighting.

### 3.5.3 Gas

Gas lighting only became possible during the industrial revolution. During the 1780s several inventors had been working with the flammable gas that is produced when coal is made into coke and they realised that it could be used for lighting. The problem was that it became necessary to set up a whole infrastructure of pipes to supply the gas to where it was needed. In 1813 a company was set up in London to supply gas and by 1815 there were 26 miles of gas pipe installed.

The first gas light burners were little more than small openings at the end of a gas pipe. Over a period of time the shape of the burners evolved so that each unit would produce more light. However, a major improvement in performance was achieved in 1887 with the invention of the gas mantle. The gas mantle is a cube of fabric, impregnated with thorium and cerium oxides. When the lamp is lit the fabric burns away leaving a brittle mesh of oxides. The cerium oxide is a thermo-luminescent material, see Section 3.1.8.