

## Gas Mantle Lamps & Cookers

A gas mantle is a device that gives off considerable light when heated. The name refers to its original power source, existing gaslights, which filled the streets of Europe and North America in the late 19th century, mantle referring to the way it hung above the flame. Today they are still used for portable camping lanterns and pressure lamps.



BELVEDERE



TILLEY Mantle Lamp - Paraffin



### Weight of a Cylinder

The Tare Weight, which is the empty cylinder, should be marked on a metal label on each cylinder and on the cylinder. Subtracting this from the Gross weight when purchased, gives you amount of gas.



BLEUET



LUMOGAZ



CAMPING GAZ



SYMPHONY

The gas mantle was one of the many inventions of Auer von Welsbach, a chemist who studied rare earth elements in the 1880s. His first process used a mixture of 60 percent magnesium oxide, 20 percent lanthanum oxide and 20 percent yttrium oxide, which he called Actinophor. To produce a mantle guncotton is impregnated with the mixture and then heated; the cotton burns away leaving a solid (but fragile) mesh of ash.

These original mantles gave off a green-tinted light and were not very successful, and his first company formed to sell them failed in 1889. A new mixture of 99 percent thorium(IV) oxide and 1 percent cerium oxide gave off a much "whiter" light, and after introducing it commercially in 1892 it quickly spread throughout Europe. The gas mantle remained an important part of street lighting until the widespread introduction of electric lighting in the early 1900s.

Modern mantles were made of silk or asbestos. Asbestos can withstand high temperatures, but is also toxic. Silk-based mantles are extremely brittle once first burned, and must be replaced frequently.

Thorium is radioactive, and pure thorium becomes more radioactive because its decay products have a shorter half-life. It should be handled with care. Due to concerns about the radioactivity of thorium, alternatives are now used in some countries, but these are more expensive and less efficient.

## GAS COOKERS



CHEF



LAGON



SERVICE PLUS



TWISTER

### The Mantle

The mantle is the all-important light emitting part of the Aladdin lamp. It is a very fine filament, which becomes incandescent when heated.

The mantle is made of a knitted cone shaped filament that is saturated in solution of metallic salts. This structure, when dry, is burned to form the final, unburnable, delicate light-producing mantle. For protection against damage during shipping and handling, the mantles are dipped in lacquer solution. This coating is burned off before the mantle is used on lamp.

### 2 Burner Dual Fuel Stove - Coleman



- 21,000 BTUs total cooking power (11,500 BTUs on main burner and 9,500 on auxiliary burner)
- Boils one quart of water in 4 minutes
- Operates on clean-burning Coleman fuel or unleaded-gasoline
- One tank operates up to 2 hours on high
- 17.75" x 11.5" x 4.875" (closed)

### PRIMUS Paraffin Stove

The paraffin, (kerosene), stove first appeared in 1892 when a Swede, Frans Wilhelm Lindqvist, registered his 'Sootless Kerosene Stove'. The design burned Paraffin gas, which was vaporised from the liquid fuel in tubes forming the burner head.

His design was so successful a Company was formed to manufacture the stove and 'Primus' appeared to the World. The first model was the No.1 stove and the range rapidly expanded into many dozens of models aimed at different markets.

With Amundsen using a 'Primus' to reach the South Pole and Hillary taking 'Primus' stoves to climb Mount Everest the word became used by many people to describe any pressure camping stove.

In 1962 the paraffin division of Primus was sold to Optimus but continued to manufacture stoves under the name 'Primus Trading'. The Company was closed in 1972 and the range consolidated just to Optimus models.

