

The Davy Safety Lamp

by Jim Steinberg

On December 5, 1815, Sir Humphrey Davy announced to the world that wire gauze could be used to isolate a flame from an external explosive atmosphere.

Davy created a lamp with an open gauze which allowed the free flow of air in and out of his lamp. This now allowed the miners to work with a greater degree of safety in explosive atmospheres.

The Davy lamp though, had room for improvement. Because the flame was completely enclosed within the wire gauze, the light output was poor. In areas where air flow was considerable, the flame would be blown against the gauze and quickly burn a hole through it. Obviously this could be disastrous. To remedy this problem, metallic wind shields were attached to the support posts to cover 2/3 of the gauze.

Over the years, many manufacturers have produced their own models of the famed safety lamp of Sir Humphrey Davy. Among the American companies to do this were Hughes Brothers and the American Safety Lamp and Mine Supply Company.

Components of the Davy lamp are:

- a) Brass hood
- b) Brass ring
- c) Gauze cap
- d) Main wire gauze
- e) Three iron support posts
- f) Wick snuffer
- g) Cotton wick
- h) Wick holder
- i) Brass ring
- j) Brass oil container
- k) Key lock

