

## Let There Be Light!

*[Adapted from Alex Gillespie, Australian Match Cover Collectors' Society's Observer, Jan. 1993]*

*Here's an interesting synopsis of earlier methods of making fire:*

“In the early days fire was produced by several methods. The first was by rubbing two sticks together, and producing friction which caused the softer stick to smolder and by blowing on it, it produced fire. Later variations of this method were used, such as Fire Sticks. These were pointed sticks rotated between the hands on a soft wood surrounded by dry moss or tinder. The rotation of the stick produced heat and the moss ignited. Later the hands were replaced by a bow, the string being wound round the stick.

After steel was invented, a piece of steel was struck on a flint, so producing a spark which ignited tinder. With the discovery of glass, a lens was used to harness the rays of the sun.

These were all cumbersome and the weather affected them, as well as being slow.

In 1616, Henning Brand, a Hamburg alchemist, set off a train of events which was to lead to the friction match. Brewing an oil he hoped would become a precious metal, Brand discovered phosphorous. The glowing element was not used in matches for 161 years, but it was the basis of widespread experimentation to devise methods of making fire.

In 1680 Robert Boyle found that by coating paper with phosphorous, fire was produced when sulphur tipped splints were drawn through the pleat. Largely because of the prohibitive costs, interest soon died down, not to reappear again until 1780.

Phosphorous unites with oxygen so readily that ignition results from exposure to the air, principally utilised in an early device called the Ethereal Match or Phosphorous Candle. Produced in France in 1750, the candle consisted of a sealed glass tube in which a piece of waxed string or paper tipped with phosphorous. When the tube was broken the in-rushing air caused combustion.

Five years later the Italian Pocket Luminary appeared. This was a bottle containing partially oxidised phosphorous and was used in connection with sulphur splints. The phosphorous bottle of Cagniard de Latour (1810) made use of the same basic principle and Francis Berogne (1816) is said to have actually made phosphorous matches.

The instantaneous Light Box (1805) was widely used for forty years, both in Europe and America. It consisted of a bottle containing sulphuric acid combined with splints tipped with potassium chlorite, sugar and gum arabic. In the USA, a box of 50 splints retailed at \$4.00 or 4¢ a light.

One of the final novelties preceding the friction match was the electropneumatic fire producer, in which a jet of hydrogen was directed upon a piece of charged resin in contact with air. The chemist, Johann W Dobarainer (1832) invented the best known fire producer in which hydrogen was generated by the action of dilute sulphuric acid on zinc. The gas was then directed upon a platinum sponge in contact with the air. In one existing model a statuette of a man stands on the generating cylinder with the gas shooting from a cigar in his hand.

Even after the first practical friction match was marketed in 1827 inventors continued to contrive unusual types of lights. In 1828, the Prothean Match, named for the Titan who stole heaven's secret