

THE ROBERT WILLIAM PAUL MAGIC LANTERN

Lester Smith

I had been aware of this particular lantern for a long time and knew the dealer who had bought it at a local auction some 25 years ago. Whenever I bumped into him I tried to persuade him to part with it but without any joy. So I started thinking of a 'swop' that might interest him and discovered that he was interested in old camera lenses. Fortunately I had a few of those lying around and, added together with a few pound notes, I obtained the lantern.

The lantern was specially designed to be used with the then new Nernst-Paul High-Power Electric Light, hence its cylindrical shape. It was also designed to be very portable and easy to put into action without



too much adjusting. The correct focusing could be done by moving the bellows on a tubular rod with a single screw to hold it in position, and adjusted to any angle to suit the screen. The whole lantern and base-board could be turned upside down and secured inside the case, with a handle for carrying.

The Nernst-Paul lamp filaments were neither enclosed in a vacuum nor made of carbon. They were made of highly refractory oxides such as zirconium, yttrium or thorium oxide. These were formed into rods and attached to platinum wires. The whole assembly was then mounted onto a porcelain disc that could be detached from the front of the lamp. The lamp also includes two or three glass bulbs containing resistance wire which act as regulators to maintain the brightness. They need a current of 3A and may be connected to an AC or DC supply of 90-160V or 190-260V.

A contemporary advertisement states: "The lamp has nine times the candle-power of a standard Nernst Lamp" and the "Illumination is sufficient for showing a disc of ten feet in diameter in a hall of moderate size". A review at the time states: "Very simple to use in the extreme".

However, it appears that one more very important procedure needed to take place. The filaments require heating up with a spirit lamp until red hot before turning the current on. The entire lamp could be turned to a horizontal position to facilitate this so the flame could be played evenly. These lamps are very fragile and I have never seen one in perfect condition.

The Nernst lamp was popular around the turn of the 19th/20th centuries and was available for homes and businesses. At around this time many halls and venues were changing from gas to electricity for their lighting which made the Nernst-Paul lamp very desirable. Paul became involved with Nernst principally for his lantern lamp which he first advertised in *Optical Lantern and Cinematograph Journal* in November 1904.

I know of only two other Paul lanterns – one in the Science Museum archives and the other owned by an MLS member.

