

he was able to demonstrate its value in eudiometry at the Halle conference, and Michael Faraday was using it routinely for this purpose by the end of the year. He also used platinum to prepare sulphuric acid by catalytic oxidation of sulphur dioxide to sulphur trioxide, independently of Peregrine Phillips who patented the process in England in 1831, but he did not establish the technique on a large scale.

Indeed, the application most associated with Döbereiner is the lighter. Like Humphry Davy with his safety lamp, Döbereiner refused to patent his invention, published all the designs and spurned a large offer from an Englishman named Robinson for monopoly rights with the words "I love science more than money" (14).

By 1828 some 20,000 Döbereiner lighters were in use in England and Germany alone, and it eventually found its way into most European countries. In spite of the invention of the safety match in 1848 by one of his former students, R. C. Böttger, the Döbereiner lighter was still in use at the beginning of the First World War. Part of its attraction lay in the scope it offered to the imaginative decorator: Döbereiner himself suggested that one could "embellish it with two alchemical symbols, namely the lion and the snake, and so arrange it that the snake takes the place of the capillary tube for the stream of hydrogen and the open jaws of the lion sitting opposite the snake hold the platinum" (15).

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## Platinum 1986

A year ago Johnson Matthey published "Platinum 1985", the first of a new series of annual surveys of the world of platinum and the other five metals of the platinum group. This was designed to complement Platinum Metals Review by providing a comprehensive survey of the commercial aspects of these metals, including their supply and demand, international markets, major applications and related aspects, with supporting statistical data.

The second of these annual reviews, "Platinum 1986", has now been published. This concentrates on the events of the

previous year, when the supply of primary platinum increased from 2,470,000 oz in 1984 to 2,510,000 oz, and in the same period demand in the Western World increased from 2,630,000 to 2,810,000. As the first of a series of occasional articles on topical subjects it includes a four page survey on fuel cells as a potential source of electrical power and as a major outlet for platinum.

Copies of "Platinum 1986" may be obtained from Mr. G. G. Robson, Johnson Matthey P.L.C., New Garden House, 78 Hatton Garden, London EC1N 8JP.