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Arc Lighting in Taunton

by John Perkin

Street lighting with oil lamps was first introduced in Taunton in 1791 and the town centre was lit from 1823 using oil gas from a works in South Street. Gas lighting was demonstrated in 1816 and the works in South Street were converted to coal gas in 1833. A new gasworks at Tangier was constructed in 1845. Reproductions of the 1833 gas street lights, but fitted with a modern electric high pressure sodium light sources can be found in The Crescent; Dellers Wharf and elsewhere in the town. The first installation of electric lighting in this country was at Holborn Viaduct, London in 1878 and the first public supply of electricity was at Godalming in Surrey in 1881.

Both of these small installations soon closed down and reverted to gas lighting. Electrical development was increasing to such an extent that it was necessary for Parliament to introduce the first piece of electricity supply legislation, the Electric Lighting Act of 1882. The Act did little to encourage the supply of electricity, since it required undertakings to be handed over to the local authority after 21 years.

Electric lighting was first displayed in Taunton at the dedication of the Masonic Hall in The Crescent in 1879 using Serrin arc lamps powered by batteries. In the same year Taunton played Wellington at rugby near Wellington railway station lit with four Siemen's arc lights supplied by a generator. A return match was staged at Vivary Park but only three of the four lights functioned. By 1882 the iron foundry of Easton & Waldergrave and the exterior of a Somerset County Herald newspaper office were both illuminated by the locally made "Newton" arc light. Newton's company closed in 1934 and their factory has only recently been demolished and replaced with housing.



Fig.1 Massingham's original premises 22/23 Fore Street within which he established the first generating station in the South West.

In 1884 a musical fete staged at the Athletic Ground was lit by electric light arc lamps. This was arranged by H. G. Massingham, the owner of a local boot and shoe company in Fore Street. As a local entrepreneur with some experience in electricity supply he was determined to convert the town to electric lighting. He wrote in December 1885 to both Taunton Borough Council and the Market Trustees asking permission to demonstrate the Thomson-Houston arc lamp system on the Parade. He proposed a trial at his own cost and was given permission to erect lamps on poles and run wires to a generator installed under the eastern arcade of the Market House. A public meeting was held at the Castle Hotel in January 1886 leading to the formation of a company, but despite initial enthusiasm, there proved to be insufficient support.

H.G. Massingham was not deterred, forming the company, paying for the necessary plant and setting up the Taunton Electric Light Depot near what is now Corporation Street. In February 1886 he proposed to erect five lamps on the Parade for nine months at a cost of seventy five pounds to the Market Trustees. This was despite the existing contract with the gas company having to run until December and the Trustees paying to light the Parade twice.

Fig.2 Late 19th century, an arc lamp at the north end of The Parade near the Kingslake Memorial with Market House in the background.

There were disagreements over the number and positions of poles and wires, which were fixed to the property and buildings of the Market Trust. Eventually, on 1 May 1886, Taunton became the first town in the South West to have its streets permanently lit by electricity. Seven arc lamps illuminated the Parade, North Street, High Street, and Fore Street. Taunton Borough Council invited tenders for lighting the town by oil, gas or electricity in August 1886 and tradesmen were invited to contribute annually towards the cost of lamps placed near their premises.

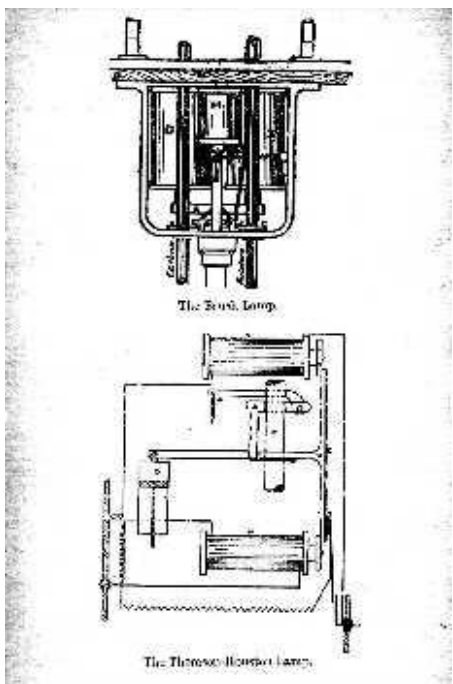


Fig.3 Detail of the Brush and Thomson-Houston arc lamps. They are described as basically the same. (Practical Engineer's Pocket Book 1907)

The plant was manufactured by Thomson-Houston of America, excluding the steam engines, which were made locally by Easton & Waldergrave. The Thomson-Houston arc lamps were very complex devices involving two coils, clutches and a pair of carbon rods. Upon switching on, the mechanism would pull the carbon rods apart, thus creating the arc. Arc lamps with two pairs of carbon rods were the most popular, since they lasted twice as long before requiring the carbon rods to be replaced. The mechanism automatically changed over to the second pair, when the first pair had burnt out.

A petition from seventy four ratepayers asking for a public meeting and another from ninety four urging the Corporation not to adopt any lighting system that would increase the rates. The corporation duly accepted H.G. Massingham's tender and a seven year contract was agreed in October. As a result the Fore Street lighting depot was enlarged in December, demolishing an adjacent house to increase the width of the dynamo room. This extended the area that was lit by electricity from the Tone Bridge as far as the railway station.

It soon became clear that on his restricted site in Fore Street he could not fulfil the demands and in April 1889 H. G. Massingham announced that he planned to build a new depot at Tangier. The destruction by fire of the Priory Collar Works in St James Street freed a more suitable location and the plans for the new site were passed in July 1889. To publicise his venture, Massingham staged the "West of England and South Wales Electric Engineering Exhibition" in St James Street in August 1891. It featured Edison's phonograph playing a record of the band of the Coldstream Guards and an electric launch, which was illustrated by local artist Harry Frier, plying up and down the Tone. The exhibition continued until the end of October.

Fig.4 The arc lamp shown in fig.2 has acquired a second lamp! Was the original not bright enough? More likely the reason was unreliability at such an important location.

On 21 March 1892 the town's ratepayers met at the Municipal Hall to consider the purchase of the electric light company. The transfer of the undertaking to the Corporation was agreed in June 1893, although the transaction was not completed until October 1893. By the turn of the century public lighting in Taunton consisted of 68 arc lamps and 340 incandescent lamps with a maximum demand of 320



kW. This was comparable with Bath, Bristol and Exeter at that time.



Due to the intense light for that period from the arc, it was necessary to mount lamps at least 20ft (6m) high. The lamps in Taunton were mounted at 25ft (8m) a similar height to the tram poles fifteen years later, which were often situated in close proximity. After its auspicious start, Taunton settled down in its electrical development to that of a typical small provincial town.

Fig.5 *Plaque erected to commemorate and celebrate the centenary of the early supply of electricity on the Market House in 1986.*

All of the labour intensive arc lamps had been replaced with the much simpler incandescent type by 1910, often using the same attractive cast iron columns but with new lanterns.

A reproduction of an original 1886 arc lamp post and lantern was commissioned by Taunton Deane Borough Council in 1986 to mark the centenary of street lighting and installed in The Parade in front of The Market House together with a blue Heritage Plaque. The pure white light of the electric arc is reproduced with a modern metal halide light source. It was switched-on by the Mayor with the Christmas Decorations that year.

With the redevelopment of the Town Centre ten years later, the reproduction arc lamp was resited to Goodlands Gardens, where it hopefully will remain and be enjoyed by both residents and visitors for many years to come. The Heritage Plaque remains on The Market House.

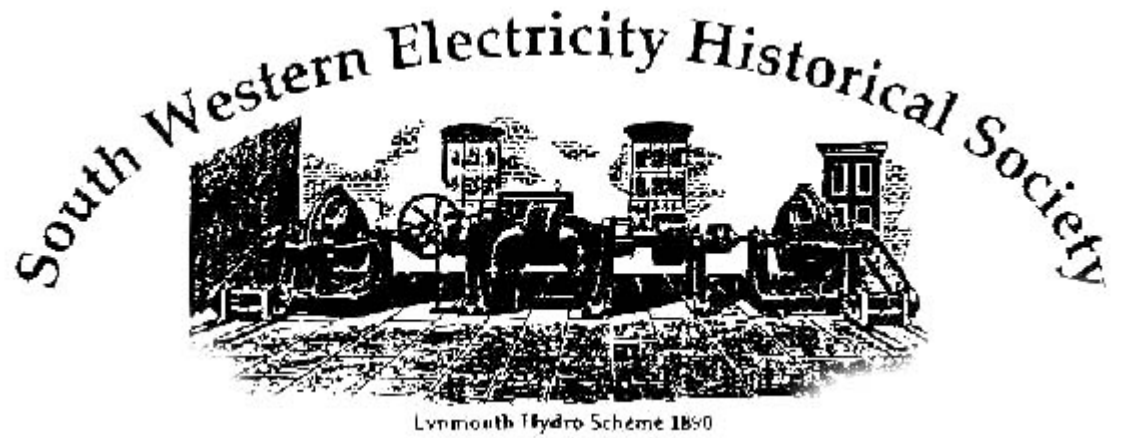
Fig.6 *The repositioned reproduction arc lamp in Goodlands Gardens beside the River Tone.*

An actual arc lamp was obtained from a cinema in 1986. It was not possible to retain the power supply, but the action of the arc may still be demonstrated with a smaller direct current supply by arrangement.

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Based on the booklet "Electricity in Taunton 1809 to 1948" written by David Gledhill and Peter Lamb and published by the Somerset Industrial Archaeological Society in 1986. This text is to be published as a leaflet in "The Industrial Heritage of Taunton Deane" series published by Taunton Deane Borough Council.





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