WIND POWERED ELECTRICAL GENERATOR AT HIGH SALVINGTON

Roger Ashton

High Salvington Windmill at TQ 123067 ceased working full time on 15 September 1897 but produced small amounts of animal feed until 1905/6. The mill had been purchased by Colonel T.F. Wisden on 20 January 1887 and when he died, on 22 October 1904, his will ensured that the mill was to be kept in working order. It was inherited by Frederick Wisden who sold it, together with 20 acres of surrounding land, for £350, on 15 October 1906, to Alfred Charles Jackson who was to become a local councillor and later an Alderman. By the summer of 1907 the concrete and brick roundhouse had been constructed and was serving teas.[1]

Jackson who had purchased another large tract of downland started to develop the area by laying out roads; a few summer residences were constructed but lack of fresh water proved an obstacle. In early 1912 Jackson commenced boring operations for a source of water. A six inch bore hole was driven to a depth of 238 feet through solid chalk before water was struck.[2] A three storey brick water tower some forty five feet high containing pumping equipment and a storage tank was erected. At the same time a development plan was prepared by Singer Hyde and Sons, a Worthing practice of architects and surveyors showing forty plots commencing at the top of the present Salvington Hill, west along Furze Road, both sides of Gorseland Lane and the west side of West Hill. "Having chosen a site you build a castle in the air, or perhaps, on the downs"[3] the developers brochure proclaimed. The buildings were to be bungalows and supplied with water from the well at "£4 per annum for drinking and culinary purposes; the water for lavatories is supplied by pumping rain water from the roofs from underground storage tanks"[4]. Gas, electricity and mains drainage were not available. At the sale held on 22 July 1912 some thirty plots were sold. To this community in 1914 came Frank Redgrave Cripps "who was born in Liverpool Gardens in Worthing, left the town when he embarked on a career as an electrical engineer, and worked for an electrical traction company that installed the tramway systems in Liverpool, Dublin and other towns"[5]. By 1922 he was supplying many of the residents with electricity for lighting from a small generating plant powered by an American style windmill (Fig. 1). The following is a description of the operation taken from the *Electrical Times* dated 3 August 1922.

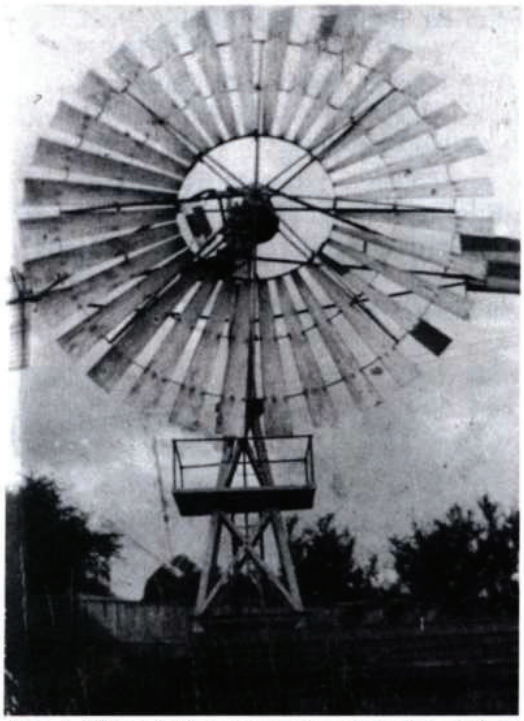

Fig. 1 The wind generator in original position showing High Salvington post mill in the background.

"Owing to the difficulty of obtaining drinking water, there are few uplands of the South Downs with more than a stray farm or lonely shepherd's cottage as a sign of population. The enterprise of a retired engineer in sinking a deep artesian well has made Salvington Hill, near Worthing, the exception, and has transformed its summit into a village of High Salvington with over thirty houses. Thither the writer retired early in 1914 after years enough of public supply, and of course, installed a small private plant for his bungalow. First one neighbour and then another have coveted the light, until the High Salvington Electric Light Company had to come into being to supply the needs of twenty-three of the present thirty-three residences, all of which are fortunately situated within a radius of 350 yards from the "works".

The chief source of power is now an American-type windmill of 18 ft diameter, to the vertical shaft of which is belted a 3 kw Crypto dynamo, which charges a 28 cell Premier battery of 250 ampere-hours capacity (at ten hour rate). A simple centrifugal governor puts resistance into the shunt circuit when the charging current reaches a predetermined limit, and the mill, of course turns out of the wind automatically before the dynamo r.p.m. become too high.

The wind is an extraordinarily fickle element. One must be prepared for the charging current to fluctuate from zero to maximum in a few seconds,