

THE MELLINGS OF RAINHILL, 1830-70

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RAINHILL, a township about half-way between Liverpool and Warrington, bounded by Cronton, Prescot, St Helens, Whiston and Widnes, was in 1801 a small village of 402 inhabitants with its agricultural workers, watch-toolmakers, file cutters, broach makers and quarrymen settled chiefly at the Stoops and the Holt. There were neither churches nor schools and no industrial buildings in the township, and the lack of water power and the absence of coal workings had left it, unlike some of its neighbours, unspoilt with its wooded areas and new red sandstone deposits.

The continued tenure of the Lancasters of the Old Hall from feudal times to the end of the eighteenth century and of the Chorleys of Manor Farm from the 1630s to the beginning of the nineteenth century made for little change in village life. The greatest event perhaps was the coming of the turnpike road from Liverpool to Warrington in 1753, which promoted the coaching service and affected Rainhill when it became the first stage out of Liverpool and stabled some two hundred horses.

The entry of Bartholomew Bretherton, the Liverpool coach proprietor, and of the Owen family, yeomen of Childwall, in the early 1800s (who were later to hold the greater part of the township between them) and the building of the Liverpool-Manchester railway, which passed through Rainhill, were events which marked the beginning of a change in the village. The installation of a railway station at Kendrick's Cross, Rainhill, brought about the development of that area as the centre of village life. Churches, schools and sizeable houses were built, the latter for merchants and manufacturers who could commute with the new transport facilities from their places of work to more pleasant surroundings. By 1841 the population had risen to 1,164, by 1851 to 1,642 and by 1861 to 2,130. The corresponding number of separate households or inhabited houses was 217 in

1841, 263 in 1851 and 384 in 1861. The time was ripe for Rainhill to move with the times and to be in a position to offer such amenities as a piped gas and water supply. These services were brought to Rainhill by the private enterprise of Thomas Melling and to find out how this was accomplished in the middle of the nineteenth century, a study has been made of the Melling family, which came to Rainhill in 1840 to start up an iron foundry.

MELLING'S IRON FOUNDRY

The Mellings came originally from Wigan. John Melling (1781–1856) was born at Haigh and in 1806 was described as an engineer of Woodhouses, Wigan. Little is known of his early movements but his elder son Thomas was born at Smithills Hall, Bolton in 1817. In 1833 John was 'superintendent of the repairs of the locomotive engines' in the engine sheds of the Liverpool–Manchester Railway Company at Brickfield Station, Liverpool and 'in consideration of the long hours and zealous attention . . .' his wages were raised from three guineas to four pounds a week.¹ While there he patented two devices for the improvement of locomotive engines;² one permitted 'one wheel to travel further than the other on going around corners' and was fitted to the *Firefly* and tested on the Sutton incline; the other, concerned with valve gearing, was fitted to eleven engines and Melling was awarded one hundred guineas with a promise of fifty pounds per engine for subsequent use of his patent. His wages were increased to six guineas a week and in 1838 he was given salary status with four hundred a year, paid monthly. His request to build a locomotive engine in the Company's sheds was met with a promise that he should do so when the *Swiftsure*, the *Atlas*, the *Ajax* and the *Pluto* were completed. He had a house provided by the Company, a garden planted with trees and shrubs and a rockery which he made from the stones taken from the tunnel and cutting at Edge Hill coach station; he appeared in fact to have settled in.

John Melling's elder son Thomas (1817–96) worked at first with his father but later left to join the Grand Junction Railway Company. In 1839 members of the Liverpool–Manchester and Grand Junction Railway Companies formed a joint committee to consider the re-organisation of the whole of the locomotive power departments, and one of the results of their deliberations was that John Melling became redundant and was given three

¹ Minutes of the Board of Directors of the Liverpool–Manchester Railway Company.

² Patent Nos 7254, 15 Dec. 1836; 7410, 26 July 1837.

months' notice as from 31 December 1839. The news can hardly have been unexpected because early in January 1840 John Melling was able to inform the Liverpool-Manchester Company that he had purchased land and premises in Rainhill to erect an iron foundry.³ He also requested that a siding communicating with the Liverpool-Manchester railway should be built at his expense.

The site referred to in Rainhill (Fig. 11) occupied 4,072 square yards and prior to 1824 was a part of the 'Great Meadow'; in

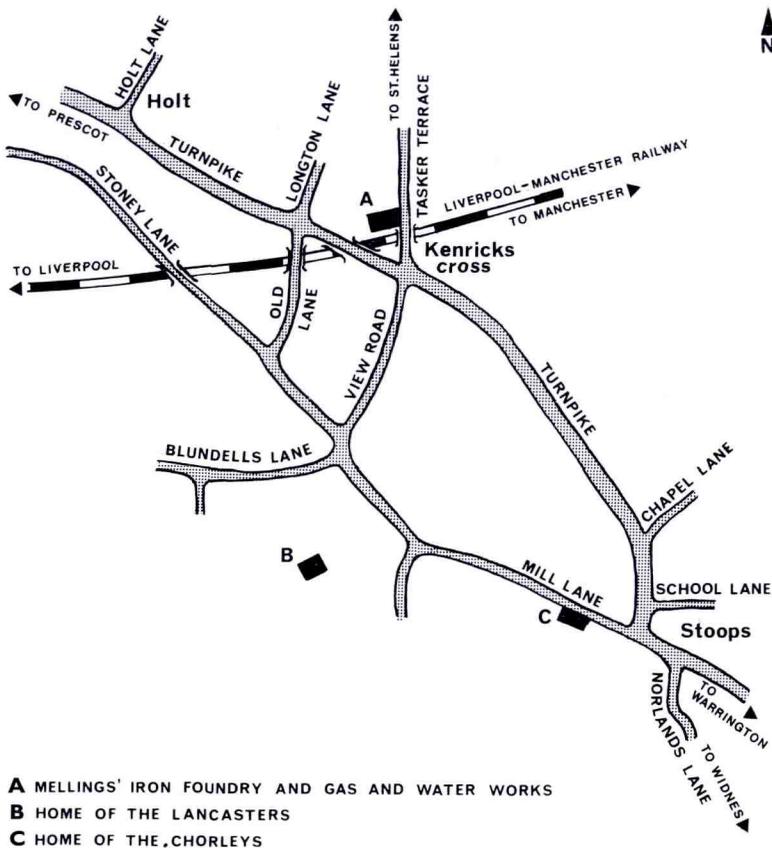


Figure 11

MELLING'S IRON FOUNDRY AND GAS AND WATER WORKS
 RAINHILL

³ Minutes of the Board of Directors of the Liverpool-Manchester Railway Company.

1824 it was bought by Messrs Bournes & Robinson, coal proprietors of Sutton and sold by them in 1828 to William Neale Clay, a partner of Thomas Moore, glass bottle manufacturer. A glass works was erected and later it passed into the ownership of John Kirkwood of Kirkwood & Stephen, Flint Glass Manufacturers, Rainhill.⁴ In 1840 the site with the glass works still standing was conveyed to John Melling the elder and to his two sons, Thomas and John, from John Kirkwood and others for £1,700.⁵ John the younger later emigrated to Canada and in 1842 the partnership between him and his father and brother was dissolved.⁶ John senior and Thomas carried on the business under the name of 'Melling & Son, engineers, millwrights, iron & brass founders, boiler makers, Rainhill Iron Works'.

Whether the Mellings carried out repairs for the Liverpool-Manchester railway is not known; but there is little doubt that when they started on their venture they were hoping to share the repair work with the Vulcan foundry at St Helens and the Viaduct foundry at Earlestown for, in 1840, John Melling wrote to the Railway Company requesting that the two locomotive engines 'now in the Crown Street yard' be sent to him to have new engines installed. This particular request was not granted.

The foundry (Fig. 12) was quite a sizeable one as shown by an inventory taken in 1847:⁷

1. A Bright condensing steam engine, 8 H.P. with governor adapted to work as a high pressure engine, with a stone bed, pumps and piping to wells.
2. A 40 ft. iron windbore pipe in the well.
3. A tubular steam boiler, 10 ft. long, 5 ft. dia. with single and compound safety valves, alarm whistle, stop valves, furnace door, bearers, bars, damper and cock, pipe etc.
4. Four iron bevil wheels.
5. Upright shafting, 10 ft. long with wall boxes, brackets, pedestals etc.
6. Horizontal shafting, 94 ft. long with couplings, hangers, wall boxes, pedestals and 21 pulleys.
7. A pair of mitre wheels, for driving fanner, pitched and trimmed shaft for driving fanner, 15½ ft. long with hanger pedestals and one 6 ft. pulley.
8. Three cast iron columns.
9. A blowing fanner with stone soughing and wood troughs to cupolas and smithy.
10. A weighing machine with stone work etc.

⁴ 4 Nov. 1828. Conveyance of land in Rainhill from Messrs. Bournes & Robinson to William Neale Clay, Liverpool, merchant; 16 Sept. 1836. Conveyance of above land and premises to John Kirkwood Esq.

⁵ 15 Feb. 1840. Conveyance of above land and premises from John Kirkwood and others to John Melling and his sons, Thomas and John, all engineers, Edge Hill, Liverpool.

⁶ 14 May 1842. Deed of dissolution of co-partnership between Messrs John Melling senior, John Melling junior and Thomas Melling.

⁷ 18 May 1847. Conveyance of site and iron foundry from Messrs John and Thomas Melling to Reece Bevan Esq., Wigan.

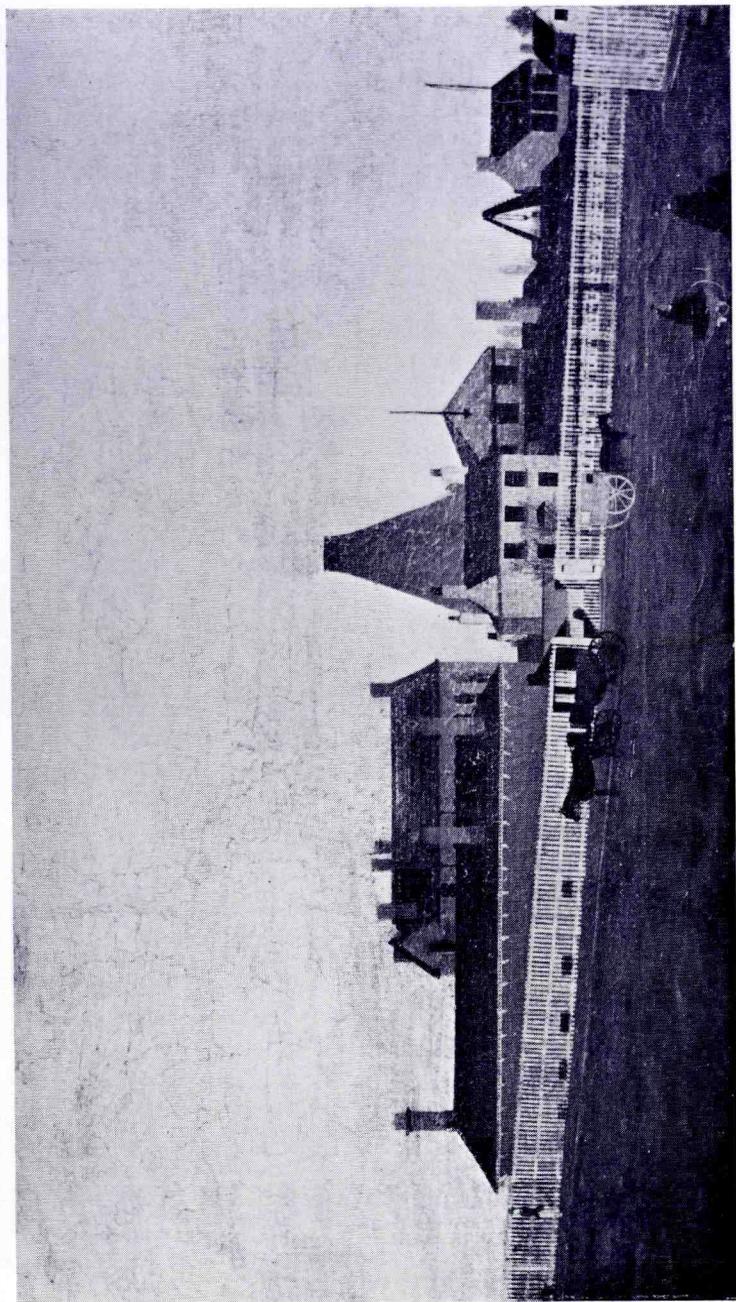


Figure 12

MELLING'S FOUNDRY

By courtesy of John Roby. Photograph, by Derek Houghton, of a mid-nineteenth century oil painting by a Mr France of Prescot. It shows the glass-works cone which, with the buildings on the right, comprised Mellings's foundry. In front of the cone is Mellings's Foundry House. To the left of the cone, at the back, is John Roby's brass foundry, and in front of it is Rainhill railway station.

11. A large wrought iron cupola for iron foundry with an air pipe, doors etc.
12. An iron platform for charging the same.
13. A wrought iron cupola with air pipes, doors etc.
14. A small cast iron cupola.
15. An iron blast pipe to the stove furnace.
16. Two plates, two doors and grids for brass furnaces.
17. A hooping furnace with plates, weights, chains, furnace doors, bearers, bars, dampers, pulleys, pedestals etc.
18. A large crane and three smaller cranes in smithy.
19. A railway and turn table into yard and workshop communicating with the railway leading from Liverpool to Manchester.
20. Ten smith hearths, brick work etc.
21. Two iron hay racks and one manger in stable.

At some date not known the cylinders of the *Novelty* came into the possession of the Mellings; the *Novelty* had taken part in the 'Rainhill Trials'. One cylinder was altered to serve as a winch, the other as a lathe. Many years later one of the cylinders was presented to the South Kensington Museum,⁸ and the other to the London, Midland & Scottish Railway Company⁹ who installed it in the waiting room at Rainhill railway station.

The Mellings also built a family house on the site of their works, referred to as *Foundry House*. By 1851 twenty men were employed at the foundry; in 1861 there were twenty men and fifteen boys at the foundry and two domestic servants in the house.

John Melling died in 1856; his wife and daughter had pre-deceased him and he was buried in the family grave in the parish churchyard. The grave is unique in that it is covered with a cast iron plate with an inscription in bold relief and, until recently, was surrounded by iron railings; there is little doubt that the cover and railings were produced at the foundry. The family is also commemorated on a marble tablet on the south wall of St Ann's church.¹⁰

MELLING'S GAS WORKS 1856-70

The history of coal gas manufacture has been well documented¹¹ and an excellent account of gas supply on north

⁸ *The Engineer*, 26 Jan. 1906, p. 82-3.

⁹ Prescott Gas Company Directors' Minutes, 12 May 1930.

¹⁰ Monumental Inscription, St Ann's Churchyard, grave No. 6: Ann Melling dau. of John and Alice Melling, died 8 Dec. 1842 aged 36 yrs.; also Alice Melling her mother, died 16 May 1853 aged 75 yrs.; also John Melling her father, died 16 Feb. 1856 aged 74 yrs.

¹¹ *The Changing Face of the Gas Industry*, A. Marsden, Chem. and Ind., 1955, 1678-1732; *Chemistry in the Gas Manufacture*, Pt. 1, L. A. Moignard, Ind. Chem., 1947, p. 430; *The Rise of the Gas Industry in Britain*, D. Chandler and A. D. Lacy, British Gas Council, 1949; *The Gas Industry*, Command 6699/Dec., 1945, HMSO.

Merseyside, 1815–1949, has been written by Stanley A. Harris.¹² Coal gas, used primarily for lighting, was introduced into this country at the beginning of the nineteenth century and was obtained by heating coal in iron retorts, later replaced by earthenware ones, separating off the condensable materials, purifying the gas from sulphur compounds and ammonia, and storing it in gasholders from which the gas was taken in cast iron pipes. Gas undertakings could be private affairs or incorporated by an Act of Parliament. Private undertakings were unprotected by law and were at the mercy of landowners, from whom permission was required to lay mains on their property, and of neighbouring gas undertakings who could encroach on the area of supply of the private undertaker. Most of the early legislation in the gas industry was for the protection of the consumer and competition was considered to be to his advantage. In 1856 there was already within easy distance of Rainhill the Prescott Gas Light Company, formed in 1833, incorporated by an Act in 1836, and the St Helens Gas Light Company, incorporated in 1832. The Prescott Company was already lighting that part of Rainhill nearest to its mains, but St Helens had not entered the township. The main portion of Rainhill was without gas. In this year Thomas Melling decided to make gas for his own use, but within a short time he was supplying it to the Railway Company to light the Rainhill passenger and goods stations and the near and distant signals (the latter about a mile beyond the station and Melling's works).¹³ In 1857¹⁴ he was given permission by the Liverpool–Warrington Turnpike Trust 'to lay a small gas main along the turnpike road at Rainhill commencing at Mr Fogg's [Victoria & Railway Hotel] and also across to the school'. The church was also lit by gas. Melling received many applications from residents on the newly developing Lawton Estate for a gas supply and in 1858 he bought a strip of land adjacent to his works to extend them¹⁵ and obtained the necessary rights from the owners of the Lawton Estate and the road authorities to lay gas mains.¹⁶

Initially he charged ten shillings per 1,000 cubic feet for his gas, but later this was reduced to eight shillings and four pence and by 1870 to seven shillings and sixpence. Bills were sent out

¹² *The Development of Gas Supply on North Merseyside, 1815–1949*, Stanley A. Harris.

¹³ *Minutes of Evidence taken before the Select Committee of the House of Lords on the Rainhill Gas and Water Bill, 1870*, hereafter cited as *Minutes of Evidence* . . .

¹⁴ Mr Melling's Brief on the Rainhill Water Works, 1867.

¹⁵ Conveyance of land (5 yd. by 74 yd. 1 ft.) from Messrs Bournes to Thomas Melling, 2 April 1858.

¹⁶ *Minutes of Evidence* . . .

quarterly and only those who could afford to meet such bills benefited from the service. By 1870 there were some three and a half miles of gas mains in the township, which supplied about one hundred consumers. The greatest demand was about 15,000 cubic feet a day, falling to about 1,600 cubic feet in the summer months; the plant was however capable of producing 50,000 cubic feet per day¹⁷ Some of the highways were also lit by gas, and some of the lamp posts, made at the foundry, and marked with the name 'Melling & Son', are still in existence.

MELLING'S WATER WORKS

When the Mellings came to Rainhill in 1840 there was no piped water supply and the inhabitants depended on well water, rain water and the water brought in from Prescot in carts. The well on the site of the glass works, where the Mellings erected their iron foundry, provided insufficient water for use in the foundry and two more wells were sunk. By 1863 there was still insufficient water and Thomas Melling increased the depth of one well and bored another to the depth of 200 feet. He now had more than he required and put a tap outside his foundry wall (in Tasker Terrace) in the summer of that year so that those who wanted water could take it free of charge. In the Spring of 1864 there were so many people crossing the railway line to get to the tap that the Railway Company objected and the tap was removed.¹⁸

There was a great scarcity of water in 1864 and many wells were dry so it is not surprising that Melling received applications for a piped water supply. At a public meeting held at Fogg's hotel 'to consider the best way of supplying water to the inhabitants of Rainhill'¹⁹ it was decided that as there were two sources from which the township could be supplied, *i.e.* from Melling's well or from that at John Marsh's quarry,²⁰ both of these gentlemen should be formally asked if they were prepared to provide a supply and under what terms. Unknown to both parties, samples of water were taken from each well for analysis,

¹⁷ *Ibid.*

¹⁸ *Ibid* and Mr Melling's Brief on the Rainhill Water Works, 1867.

¹⁹ 7 April 1864. William Wilcox Fennell, merchant, presided. Other residents were: Alfred Ackerley, stock share broker; John Barnes Barrow, solicitor; Francis Pentland Colley, cotton merchant; Henry F. Greene; George Jenkins Jefferson, treasurer to the Mersey Docks and Harbour Board; Joseph Owen, timber merchant; E. T. Pemberton, brewer; Edward Pugh, shipbroker.

²⁰ John Marsh (1811-90) son of John Marsh, mercer and draper of St Helens and his wife Tabitha Cross, was a chemical manufacturer of St Helens and had built the 'mansion' Rann Lea, Mill Lane, Rainhill about 1862.

which was carried out by Henry Sugden Evans, a member of the firm of Evans, Sons & Company, Liverpool and a Rainhill resident.²¹ The water from Marsh's well had a slight persistent turbidity and was permanently hard whereas that from Melling's well was clear and limpid with an agreeable freshness, 'rendering it more palatable and wholesome as a drinking water'.²² At the next public meeting, held on 2 June 1864, Melling's offer to supply piped water at five per cent of the Assessment (Relief of the Poor) was accepted and on 22 June 1864 he received permission from the Trustees of the Liverpool, Prescott, Ashton and Warrington Turnpike roads to install mains and the necessary equipment. Several houses in the immediate vicinity of Melling's works were supplied with water in that year. At the beginning of 1866 permission was also obtained from the Owen family to lay pipes on the Lawton Estate and included in this grant of licence was permission for him to acquire a piece of land on which he proposed to erect a high-level water tank and reservoir.²³

Melling was proud of his water supply; 'in the drought of 1868 our wells never failed us . . . Liverpool and Manchester were on short commons'.²⁴ Houses were built on the higher part of Rainhill with cisterns large enough to hold a day's supply of water so that they virtually had a constant supply. In 1869 Melling bought the land (Fig. 13) on which to build the high-level tank.²⁵ Thomas Melling now had on the one site an iron foundry, a gas works and a water works.

²¹ Henry Sugden Evans, a son by a second marriage of John Evans (1787–1865) founder of the firm of Evans, Sons and Co., wholesale and manufacturing chemists, worked for the firm in Liverpool but lived in Rainhill. In 1870 he went to Canada to take charge of the Montreal branch which later became H. Sugden Evans and Co. In 1884 he was appointed the first Chief Dominion Analyst. (*The Story of Evans Medical, 1809–1959*, Evans Medical Supplies Ltd; *A History of Chemistry in Canada*, C. J. S. Warrington and R. V. V. Nicholls, Pitman, Toronto, 1949).

²² The water was later tested by Thomas Spencer, F.C.S., London on 7 March 1867: 'I have analysed a sample of water handed to me by Mr Melling on 23 Feb. 1867, received in a stone bottle duly corked and sealed. Solid residue, 28.37 grains per gallon; volatilized organic matter, 0.53; hardness by Clarke's scale, 14.7; on boiling a few minutes, hardness 10. This water is free from turbidity and without taste or odour. The small amount of organic matter [was] found to be wholly vegetable. The water contains no unwholesome ingredient, its constituents being those in common with the new red sandstone water of the district'.

²³ 6 Feb. 1866. Grant of licence and right to lay pipes etc. on the Lawton Estate: Joseph Owen, timber merchant, Liverpool, and Elizabeth Mary Owen and others to Thomas Melling, engineer and iron founder, Rainhill.

²⁴ *Minutes of Evidence* . . .

²⁵ 18 Dec. 1869. Conveyance of land in Rainhill from Elizabeth Mary Owen and others, to Thomas Melling, engineer and iron founder, Rainhill.

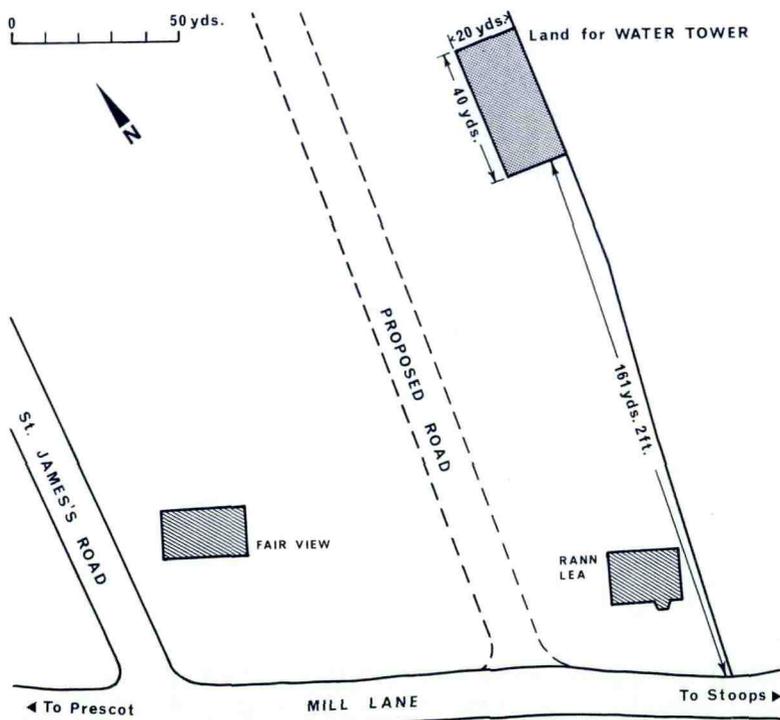


Figure 13
SITE FOR WATER TOWER, RAINHILL

THE RAINHILL GAS AND WATER BILL

Before proceeding with an account of the Rainhill Gas & Water Bill²⁶ it is necessary to go back to 1866 when the following statement was minuted at a meeting of the Prescott Gas Company's Directors,²⁷ 'that a notice of intention to apply for a new Act of Incorporation of the Prescott Gas Company and for the purchase of the Rainhill Works . . . be inserted in the Prescott Reporter and the Liverpool Mercury . . . and once in the London Gazette' and to 1867 when a Bill was presented to Parliament 'to reconstitute the Prescott Gas Light Company and to provide for more effectively lighting the town of Prescott and the neighbourhood'.²⁸ Melling objected to this Bill and petitioned Parliament

²⁶ The Rainhill Gas and Water Bill, *House of Lords' Journal* 1870, 102, 10 Feb.

²⁷ *Minutes of the Prescott Gas Light Company, General Annual Meetings including Directors' Meetings.*

²⁸ Prescott Gas Bill *HLJ*, 1867, 99, 11 and 15 Feb.

'that the Prescott Gas Bill may not pass into law and that he may be heard by the Council . . . against the Bill and such clauses as effect his property, rights and interests, and in favour of the insertion of such provisions as may be necessary for his protection'.²⁹ Melling's petition was granted and the Prescott Bill amended so that legal power for the Company to supply gas to Rainhill was restricted to a defined area.³⁰ Melling also agreed that if he did not come to Parliament for a Bill to constitute a Company, they (the Prescott Company) were to be let in to oppose him.³¹

In 1867 Melling had to appeal against yet another Bill, brought this time by the Local Board for the District of Widnes to authorise it to supply its district and places near to with gas and water.³² Melling was again successful and the Widnes Board agreed to strike out of the Bill 'all powers as to Rainhill except the power to supply water by agreement within a radius of a mile from the promoters' pumping station at Pex Hill'.³³ No shaft nor well for the supply of water was to be struck by Melling within a radius of a mile from the promoters' pumping station. It was obvious that if Melling wanted to keep his Gas and Water Works he would have to form a Company and acquire an Act of Incorporation to protect himself.

The other promoters of the Rainhill Company were: William Silk Harris, a book-keeper and spirit merchant in Liverpool from 1841 to 1859 but in 1870 retired at Egremont, Cheshire; Edmund Henry Harris, his son, resident engineer and manager of the Wallasey Gas and Water Works; William Roscoe, a former steward to the Earl of Sefton; James Roscoe his nephew, and Thomas Chatterton Smith. The latter, born at Alkington, Middleton in 1823, had come to Rainhill almost at the commencement of the Mellings' venture in the business of iron founders and was at first articulated to the Mellings as a draughtsman but later became a manager and finally a partner of Thomas Melling.

The Rainhill Bill was presented on 10 February 1870 and was opposed by two hostile petitions, one from the St Helens' Gas

²⁹ *Ibid.*

³⁰ *Prescot Gas Company Act, 1867, May 13.* The defined area was: 'from a point where the L.N.W.Ry. intersects the boundary line of the township of Whiston and Rainhill, thence along the said railway in an easterly direction to the point where the railway is crossed by a public footpath leading from Stoney Lane to the Liverpool, Prescot, Ashton and Warrington turnpike road, and thence along and including that footpath to the said turnpike road and thence across that turnpike road due north to the boundary line of the townships of Eccleston and Rainhill, thence along the boundary of the townships of Rainhill and Whiston to the first-mentioned point.'

³¹ *Minutes of Evidence . . .*

³² *Ibid.*

³³ *Ibid.*

Company, the other from some of the occupiers and owners of property in Rainhill. The St Helens' Company claimed the right to light Rainhill because it considered it a residential part of St Helens: 'the wealthy and respectable people who do not like to endure the numerous odours from all these works in the immediate neighbourhood of the town [St. Helens] will go out and do go out to erect and occupy villas in such nice neighbourhoods as Rainhill'.³⁴ Aldermen Marsh, Webster, Birchall, Messrs Baxter and Menzies, alkali manufacturers, Mr Dodd an iron founder and Mr Parker a brewer were among those who had already done so. The St Helens' Company proposed to buy the Rainhill Gas Works but not the Water Works and to remove the retorts and gas holder from the site. The Rainhill consumers would be asked to pay six shillings per 1,000 cubic feet for gas, which was cheaper than Melling's proposed figure of six shillings and eightpence.

The main cause of complaint of certain Rainhill residents was the cost of the gas. The Rainhill gas, however, had a higher illuminating power than the St Helens' gas, necessary according to T. C. Smith for the railway signals because 'the further you carry gas, the lower becomes the quality and the greater the loss by condensation'. Also, 'it loses pressure, travels more slowly and loses illuminating power'.³⁵ To obtain a high illuminating power, Melling used Wigan cannell and no doubt felt he was justified in charging more for his twenty candle power gas than St Helens were charging for theirs of fourteen candle power. One Rainhill resident complained of the inconvenience he had experienced by Melling's method of laying gas pipes; instead of taking separate one-inch branches from the three-inch main which ran up View Road, he supplied several houses from one branch, digging up private gardens, the complainant's included, to get in. (It should be pointed out that Rainhill is built on new red sandstone which in places is very near the surface and it may have been costly to lay pipes low enough below the surface.) This complaint was somewhat offset by a note from the complainant's family that 'stipulations granted by licence to supply the Lawton estate with water and gas have been satisfactorily performed'.³⁶ Another complaint from the same man was that the cost of lighting the public highway was too high, three pounds per year per lamp, and the lamps were not lit when the moon was shining. (It was common throughout the country to save gas on moonlit nights.) Some Rainhill residents attested to the incon-

³⁴ St Helens' Gas Bill, Minutes of Evidence taken before the Select Committee of the House of Lords, 11 March 1870.

³⁵ *Minutes of Evidence* . . .

³⁶ *Ibid.*

veniences they had suffered before Melling supplied the township with water and acclaimed him as a public benefactor.

The Select Committee appointed to consider the Bill decided that whoever should purchase the Gas Works should also be compelled to buy the Water Works for the benefit of the township. The presence of the iron foundry on the same site as the Gas & Water Works could be an embarrassment as far as accounts were concerned, particularly as shareholders' money would be involved in the Gas & Water Company. Mr Harris, one of the promoters, suggested that the whole of Melling's Works should be purchased by the Company and that the Foundry should be sublet to Thomas Melling, but this was not acceptable to the Select Committee.

The Rainhill Bill received Royal Assent on 20 June 1870. The Company was allowed to purchase the Gas & Water Undertaking from Thomas Melling but within twelve months after the passing of the Act, Melling had to remove all 'apparatus, fixtures appliances, and tools used in and for the purpose of his foundry so that the business of an iron founder shall cease to be carried on upon the said premises'. The authorized capital of the Company was £15,000, divided into fifteen hundred shares; the directors were named as William Silk Harris, Edmund Henry Harris, William Roscoe, James Roscoe and Thomas Chatterton Smith. Thomas Melling's name is noticeably absent. The limits within which gas could be supplied comprised the whole of the township of Rainhill except for the area defined in the Prescott Gas Bill.³⁷ The price of the gas was not to exceed five shillings per 1,000 cubic feet for the first three years and not more than four shillings and sixpence thereafter. Regulations concerning the illuminating power of the gas, the amount of permissible hydrogen sulphide, sulphur and ammonia in the gas were also described.³⁸ The power to lay pipes *etc.*, regulations concerning public lamps, the use of meters by consumers, the recovery of damages and the penalties which could be enforced were all dealt with. If five or more consumers complained in writing about the insufficiency of the illuminating power of the gas, then any two justices of the peace were empowered to have the gas tested. With regard to the water supply, the Company was

³⁷ See note 30.

³⁸ The quality of the gas had to be such that an Argand or other suitable burner consuming 5 c.ft. of gas per hour should produce a light equal in intensity to that produced by 14 sperm candles of 6 in the pound burning 120 grains per hour. Also the gas should be so far free from sulphuretted hydrogen as not to discolour moistened test paper imbued with acetate or carbonate of lead when exposed for one minute to a current of gas at a pressure of five tenths of an inch of water. Also the gas should not contain more than 5 grains of ammonia nor more than 20 grains of sulphur of any form in 100 c.ft. of gas.

allowed eighteen months in which to build a reservoir and water tower, and after that time water had to be supplied constantly under high pressure as defined in the Waterworks Clauses Act of 1847.³⁹ The cost of water for domestic purposes was an annual rate of eight shillings and sixpence for any house of which the yearly value did not exceed ten pounds, and for houses assessed at a higher rate, five per cent on such value. For every water closet beyond the first, a yearly sum of five shillings would be charged and for every fixed bath, seven shillings and sixpence.

THE SALE OF MELLING'S GAS & WATER WORKS

Before the sale of the Gas & Water Works to the Rainhill Gas & Water Company an evaluation was carried out, the result of which provides information of the Works while still under Melling's control. The following expenditures and incomes for gas and water refer to the year ending 30 September 1870.⁴⁰

GAS		£	s	d
<u>Income</u>				
2,140,000 c.ft. gas supplied to private consumers	535	0	0	
160,000 c.ft. gas supplied to public lamps	63	0	0	
92 tons of coke at 10s. 0d. per ton	46	0	0	
Tar and liquor at 1s. 6d. per ton of coal	21	7	6	
				665 7 6
<u>Expenditure</u>				
257 tons of coal at 7s. 6d.	96	7	6	
28 tons of cannell at 12s. 0d.	16	16	0	
Purifying materials	7	2	6	
Wages on works and in streets	130	0	0	
Repairs to works and mains	57	0	0	
Salaries	126	0	0	
Directors and auditors	25	0	0	
Rates and taxes	9	0	0	
General charges	6	0	0	
				473 6 0
	Profit	192	1	6

³⁹ *The Waterworks Clauses Act, 1847* stated that a constant supply of pure water must be kept in pipes for domestic use and laid on at such a pressure as will make the water reach the top storey of the highest house unless otherwise provided by a special Act.

⁴⁰ Letter from George Wilson Stevenson, engineer to the Rainhill Gas and Water Company, 12 Dec. 1870.

WATER

<u>Income</u>	
Quarterly accounts of consumers	180 4 10
Add 15% for increased charges by Act of Parliament	27 0 0
Weekly consumers	32 10 0
Workhouse supply of water	40 0 0
	<hr/>
	279 14 10
<u>Expenditure</u>	
Cost of pumping 10,670,000 gallons of water at 2d. per 1,000 and rates and taxes	94 0 0
	<hr/>
Profit	185 14 10

Net annual profit from both gas and water = £377 16s. 4d.

On the income side for the supply of gas the new price of five shillings per 1,000 cubic feet was used, but even so a total profit on the gas and the water of £377 16s. 4d. was not large. Another interesting point about the items on the proposed income from the gas supply is that the public highway was being lit with gas. But shortly afterwards the township reverted to oil lamps and continued with them until electric light was introduced in 1900.

The annual profit from the Gas & Water Works was capitalized to give a return of 6 per cent and the value of the following items added.

	£	s	d
Capitalized profits	6,296	18	10
Value of land and plant	605	0	0
Gas holder or more than half the cost of the new tank and holder	800	0	0
Cost of the summit reservoir, not yet constructed	750	0	0
A setting of 7 retorts	175	0	0
Four purifiers	250	0	0
Old materials in building	300	0	0
Cost of opposing in Parliament in 1867 and cost of obtaining the Act of Incorporation in the last session (1870)	3,000	0	0
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Value of the Works and Undertaking	12,176	18	10

A figure of £12,200 was offered to Melling and accepted.⁴¹

The reasons why Thomas Melling originally elected to provide a gas supply are fairly obvious. Primarily he wanted a supply for himself and considered that he was technically able to provide it.⁴² He was probably well aware of the process of gas making

⁴¹ Letter from Thomas Melling to the Rainhill Gas and Water Company, 3 Jan. 1871.

⁴² That Thomas Melling was an inventive man may be seen from the fact that he had nine patents to his name: 11199, 7 May, 1846; 957, 6 April, 1857; 2155, 20 May, 1876; 2780, 11 July, 1878; 93, 9 Jan. 1879; 2792, 9 July, 1879; 3261,

and of the equipment required because of his contacts with the Prescott Gas Light Company; as early as 1854 he was supplying three-inch cast iron socket pipes, and in 1856 was paid a bill for £92 14s. 3d. for repairs on the works.⁴³ Most of the hardware required could be made at his foundry; whether or not he made his own retorts is not known but he was equipped to do so, and although earthenware retorts, which withstood higher temperatures and produced more gas per ton of coal, were becoming more common at this period, cast iron retorts were still being bought and installed at local gas works, 1857 at Prescott⁴⁴ and 1859 at St Helens.⁴⁵ He might also have heard that the Prescott Company was preparing a circular to be sent out to Rainhill inhabitants in 1855 to find out the probable consumption of gas in that area and that the Company was only waiting for a report on the legal aspect before sending it out. Lastly, Melling must have taken into account the influx of merchants and manufacturers into the township, residents who would not only want the conveniences of a piped gas supply but also a water supply, and would be able to pay for them. It would be to these and other well-off people to whom Melling would look for a return on his outlay.

Melling has been described as a public benefactor; he was to the wealthier residents. Small householders continued with their oil lamps and candles until the beginning of the twentieth century when the prepayment meter was introduced to Rainhill.⁴⁶ Some of the small cottages, even those in the immediate vicinity of Melling's Gas & Water Works, had a piped water supply but only to a tap shared by several of them in a communal yard. Even the nuisance of the proximity of the Gas Works, where the smell of the foul 'spent oxide' and the tar products and ammonia liquor would persist, fell on those who were not benefitting from the service because the greater number of the better and larger houses were away from Kendrick's Cross. Rainhill was not alone in having its water supply sited in the same yard as the vile-smelling gas works' byproducts.

10 Aug. 1880; 14442, 25 Nov. 1885 and 10820, 24 Aug. 1886. The one for 1857 shows that domestic plumbing was in an elementary state: 'improvements in taps or valves and an apparatus to prevent the overflowing of and the letting off the water from baths'. In 1869 he became a member of the Association of Gas Managers (Reports of the Proceedings of the British Association of Gas Managers, 1869-79).

⁴³ *Minutes of the Prescott Gas Light Company, General Annual Meetings including Directors' Meetings.*

⁴⁴ *Ibid.*

⁴⁵ *The Directors' Minute Book of the St. Helens' Gas Light Company*, 3 May, 1859.

⁴⁶ The prepayment meter was invented by R. B. Brownbill in 1887.

After thirty years or so in Rainhill, Thomas Melling having sold his Gas & Water Works to the Rainhill Gas & Water Company, left the area and went to Grassendale Park, Liverpool where he practised as a civil engineer. Of his five children, only the first was born at Rainhill Foundry. In his time in the township he had taken an active interest in the life of the village, particularly in church affairs; he was churchwarden, school 'Visitor', and sat on various committees, particularly that concerned with the enlargement of St Ann's Church in 1867. In the early 1890s he retired to Birkdale, where he died in 1896, and was buried in the family grave at Rainhill. No inscription has been made to commemorate the fact that he was ever in Rainhill. His widow died in 1901 and was buried at Southport cemetery.

The history of the Mellings' iron foundry and of Thomas Melling's Gas & Water Undertakings would not be complete without a reference to the man who financed them from 1844 to 1869. He was Reece Bevan (1797-1869), a native of St Helens, who at an early age became a cotton spinner of Wigan. He was later one of the first justices appointed for the borough when the Municipal Corporations Act of 1836 became operative, was a member of the first council elected under the Act and the first Mayor chosen by the new council.⁴⁷ Reece Bevan was related to the Mellings by marriage to a sister of John Melling in 1823. In 1868 Thomas Melling married a niece of Reece Bevan, Mary Ellen Bevan, a daughter of John Bevan formerly of Bevan & Rigby's soapery, St Helens who were also helped financially by Reece Bevan.⁴⁸ But for the security given to the Mellings by Bevan, the history of the foundry and the Gas & Water Works might have been vastly different.

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⁴⁷ *The Wigan Observer*, 30 April, 1869.

⁴⁸ *A Merseyside Town in the Industrial Revolution: St. Helens, 1750-1900*, T. C. Barker and J. R. Harris, Univ. Press, Liverpool, 1954.