

# The Lost Gardens of Fireside

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*The life and work of the nineteenth century engineer and amateur astronomer, James Nasmyth, is reasonably well documented. He was born in Edinburgh, Scotland, moved first to London in 1828, then to the great industrial centre of Manchester, where he lived for 20 years in the district of Patricroft. Despite the wealth of information about his family and his engineering work now available, the location of his Manchester home, the house he called 'Fireside', was not precisely known. The research described in this paper has resulted in it, and its observing site, being identified with certainty for the first time.*

In 1834, two young Scottish engineers, James and George Nasmyth, established an engineering business in Manchester, England. James was then 26 years old; George was two years his senior. Two decades later, by which time its founding brothers had either sold out or retired, the firm had become one of the most successful engineering companies in Britain, and continued to be so for more than a century<sup>1</sup>. Much of what we know about Nasmyth is gleaned from his autobiography<sup>2</sup>. It is the first port of call for any investigation of his life; yet it contains only what he wanted us to know of himself<sup>3</sup>. He is vague about many personal details, such as where in Patricroft he lived, and he totally ignores some 'skeletons in the cupboard', including his late brother, George<sup>4</sup>, who he mentions only once.

To flesh out the details and to re-establish the balance of the Nasmyth brothers' partnership - important background to where James lived and first began his interest in astronomy - we must refer to other sources, especially to the work of Dr J. A. Cantrell and Miss M. Patry. With their invaluable help, this paper pulls together threads of information regarding Nasmyth's Bridgewater Foundry, and especially about the period from about 1842 to 1856, when James Nasmyth's interest in astronomy first blossomed at his home, Fireside, in Patricroft.

James Nasmyth was born into a highly talented, well-connected, Edinburgh family<sup>5</sup>. His father, Alexander, was an established landscape artist whose circle of friends included Sir Walter Scott, James Watt and Robert Burns, who Alexander immortalised in a famous portrait. They, and other artist and scientist friends, were regularly entertained at the family home, No. 47 York Place, Edinburgh, which, although being described by James as 'small', is in fact a substantial, five-storied, Georgian house which, during James's childhood, was occupied by 14 people (Figure 1)<sup>6</sup>.

## Beginnings

In this atmosphere of culture, James was exposed to his father's frequent visitors, whose enthusiasm for the arts and learning evidently rubbed

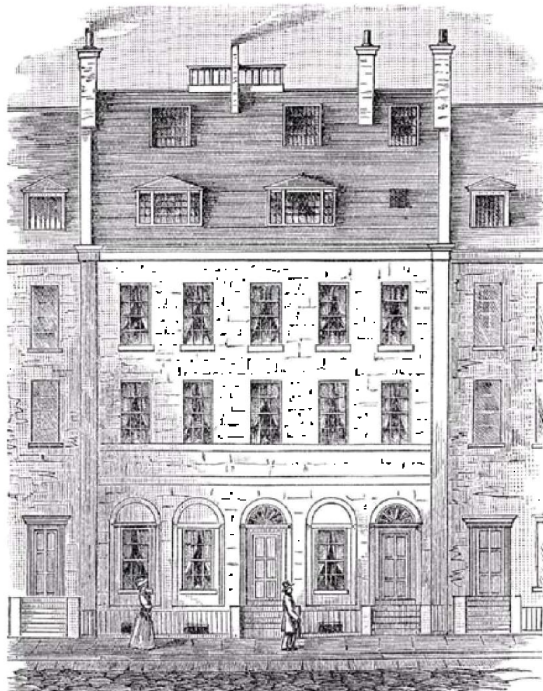


Figure 1

### Nasmyth's childhood home

No. 47 York Place is the property to the immediate right of the gentleman (see Note 6). Image from Nasmyth's *Autobiography* (Reference 2).

off. From an early age, James and George were keen on mechanical things. Like many of his older siblings, James had an artistic eye and could visualise and depict in his sketchbooks quite complicated mechanisms. In his bedroom fireplace he had a small forge in which he smelted brass with which to cast parts for model steam engines. One can imagine the consternation of his parents as their teenage son melted metal in his room above theirs, and kept them awake into the wee small hours pounding sand around formers to make moulds for his castings.

When James was 19 years old, his model steam carriage attracted wider attention, and he and George were commissioned by the Scottish Society of Arts to make a full-scale machine capable of

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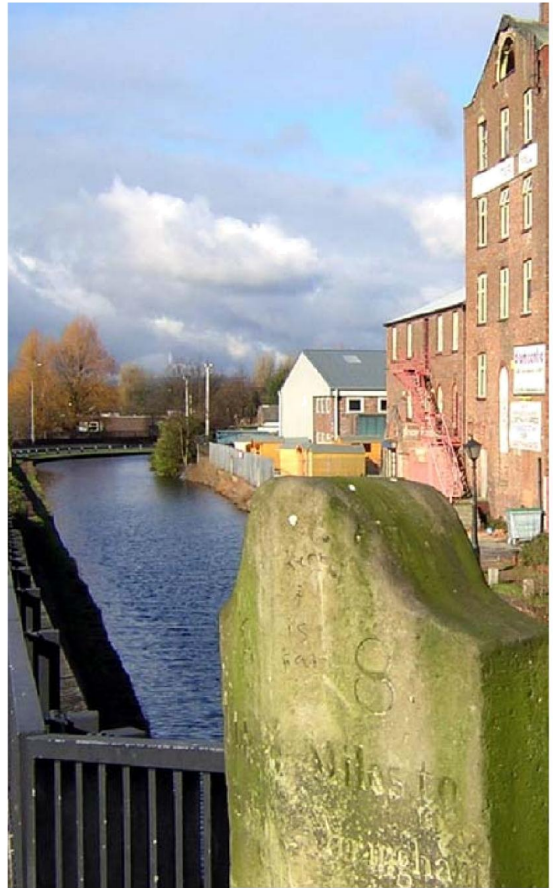
carrying four to six people<sup>7</sup>. They were given £60 to build the car, and eventually produced one that carried eight people<sup>8</sup>. The project was an engineering success, but no commercial value was attached to it. He was given the carriage, and made a good profit by selling it for parts and scrap for £67.

With an introduction arranged by Alexander, James and George applied to become apprentices to the London engineer, Henry Maudslay. He was an engineering innovator, who had done much to progress the British industrial revolution of the early 19th century by introducing standardised parts made by his machine tools. Until then, all mechanical devices were one-offs. Even nuts and bolts were hand made and not interchangeable. Like that great Manchester engineer, Joseph Whitworth, Maudslay's development of machine tools meant that mechanical components could be manufactured with reproducibility and consistency. The Nasmyth brothers' engineering knowledge and models so impressed Maudslay that he recognised that they were already too advanced to benefit from mere apprenticeships, and both were taken under Maudslay's wing as assistants, probably in 1828 or 1829.

In early September 1830, James Nasmyth travelled by coach from London to Liverpool to watch the opening of the Manchester to Liverpool railway. He walked back to London, armed with letters of introduction to facilitate visits to industrialists en route. He intended to investigate the prospects for setting up a business in the north-west of England, either Liverpool or Manchester, or in Birmingham, which were already at the heart of the British industrial revolution<sup>9</sup>. Local entrepreneurs and investors encouraged industrial development, land was cheap to rent and there was a ready and willing population of available workers.

On Saturday, 17 September he left Liverpool and began the long walk back to London. That day he walked the 40 miles of railway to Manchester, and in the afternoon rested on Patricroft Bridge, over the Bridgewater Canal, in the town of Eccles (Figure 2). The tranquil, rural scene impressed him, as did the proximity of superb transport facilities in this quiet corner of Lancashire, whose industrial vitality was already giving him inspiration. The world's first passenger railway, since 2 days before, connected Manchester and Liverpool; and, for more than 60 years (since 1764) the Duke of Bridgewater's canal carrying cheap coal from his mines at Worsley, two miles north of Patricroft, had powered the cotton-mill engines, and had stoked the domestic fires in the heart of industrial Manchester six miles away. From Manchester, Nasmyth's journey took him back to London via Coalbrookdale and Ironbridge in Shropshire, and on to Wolverhampton and Dudley in the 'Black Country' of the west Midlands. Here he saw 'the remains of what had

once been happy farmhouses, now ruined and deserted'. The entire landscape was blackened and polluted by the cinder heaps, furnaces and smoke of industrialisation. By comparison, the green fields of south Lancashire beckoned more strongly.



**Figure 2**

### **View from Patricroft Bridge looking north**

On the far side of the sharp bend of the canal to the right, James Nasmyth later lived at Ellesmere House, Fireside was on the right bank of the bend.

Photograph by the author.

### **The Nasmyth Partnership**

On 14 February 1831, Maudslay died, and in the autumn, James and George left London to set up as equal partners<sup>10</sup>, in Edinburgh, a small engineering shop to make machine tools and steam engines, whose sale would finance a more ambitious business in Liverpool or Manchester. In summer 1834, after examining the prospects of opening a business in Liverpool, James returned to Manchester, and with unsecured credit of £500 at 3% interest from businessman William Grant, he rented from the firm of Wren and Bennett<sup>11</sup> part of a mill in Dale Street, close to the centre of Manchester (Figure 3)<sup>12</sup>.

In Dale Street James and George began making machine tools and parts for steam engines



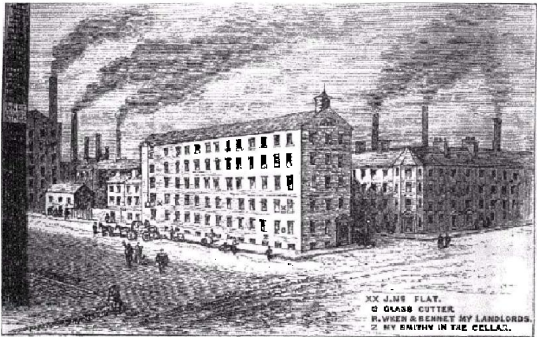


Figure 3

**The Dale Street works in Manchester**

Image from Nasmyth’s *Autobiography* (Reference 2).

in a second-story ‘flat’ above a glasscutter’s workshop in a former cotton mill<sup>13</sup>. Their business was successful, and within 2 years they had accumulated a large amount of work-in-progress and a considerable amount of heavy machinery. The wooden floors creaked under the growing weight. In 1836 disaster struck: A heavy beam engine crashed through the floor causing destruction in the glass-workshop below. The Nasmyths were asked to leave. James immediately decided that Patricroft offered a much better prospect for development; here they would set up business anew and make their fortune. A 6-acre plot of land was rented from Squire Trafford, and temporary, pre-fabricated wooden buildings were constructed to accommodate the move from Dale Street<sup>14</sup>.

The site in Patricroft was rich in readily-available resources. It was bordered on its west side in part by 1050 feet of stone-clad frontage along the Bridgewater Canal (Figure 4)<sup>15</sup>. On its eastern edge was a good road, Green Lane, with an open aspect to the east across land where the Nasmyths later built cottages for their workforce. Adjacent on the south side was the Liverpool to Manchester railway line, to which they later connected their own siding so that they could run and test their standard-gauge steam locomotives. Patricroft Colliery was close by, its coal readily available to power the steam engines. The site even had its own public house, no doubt frequented by the Nasmyths’ thirsty foundrymen. Within two years a handsome factory was built using bricks made from clay that overlaid the sandstone bedrock north of the factory (Figure 5)<sup>16</sup>.

Although his Manchester business was initially in equal partnership with George<sup>17</sup>, after moving to Patricroft they took into partnership as their finance director, the slightly older and more experienced Holbrook Gaskell<sup>18</sup>. They also obtained substantial financial backing from the Manchester cotton-spinning magnates, the Birleys. By 1838 the firm of Nasmyth Gaskell & Co. was operating from a purpose-built factory with access to unequalled local and national transport facilities, and with

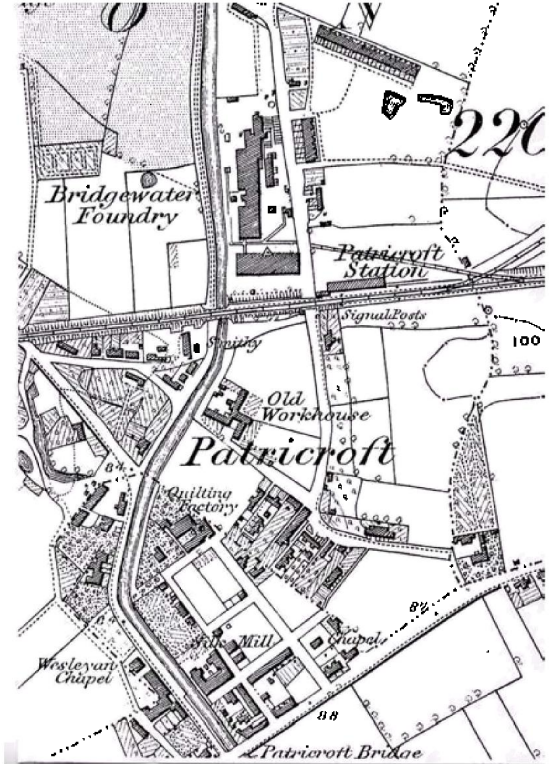


Figure 4

**The location of Nasmyth’s Bridgewater Foundry in Patricroft in 1848**

The Foundry is about ¼ mile from Patricroft Bridge.  
North is at the top.

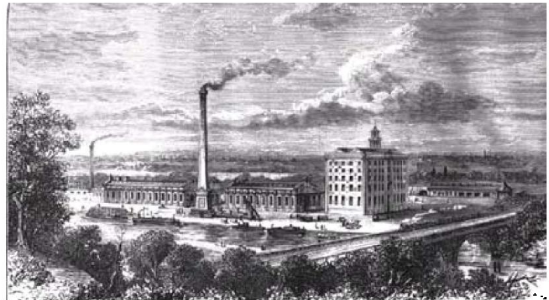


Figure 5

**Bridgewater Foundry from the southwest by Alexander Nasmyth c 1838**

Image from Nasmyth’s *Autobiography* (Reference 2).

assets of £40,000<sup>19</sup>. James was the technical innovator, and George was responsible for selling the engineering products: machine tools, engines and, eventually, steam hammers and railway locomotives. Thus was the Nasmyths’ Bridgewater Foundry in the late 1830s, ideal for development and expansion. James Nasmyth exploited his assets, and his considerable engineering and business skills<sup>20</sup>; he never looked back, and went on to develop and patent the steam hammer with which to shape massive, wrought iron forgings (Figure 6)<sup>21</sup>.

Throughout his life, like most practical engineers, Nasmyth kept meticulously annotated sketch-books<sup>23</sup>. His first sketch of the steam hammer is dated 24 November 1839. The invention of the steam hammer, the related steam pile driver and numerous machine tools, made him the equivalent of a multi-millionaire by the time he was in his mid-40s.



**Figure 6**

**James Nasmyth on the platform of a medium-sized steam hammer, 1855**

Image taken from Reference 22.

Nasmyth's autobiography is a tale of success after success, but it does not tell us all we might wish to know about Nasmyth the astronomer<sup>24</sup>, or especially of Nasmyth the man. He tells us what he wants us to know. He mentions his brother, George, only once, letting us think that it was he alone who was responsible for the success of the Bridgewater Foundry. Yet until James's marriage in the early summer of 1840, he and George shared a house with their sister, Margaret.

It is perhaps surprising to realise that the Nasmyth brothers were involved with the Bridgewater Foundry for no more than 20 years. George left the company in 1843, just seven years after it was founded, and moved to London<sup>25</sup>. He later fled to America<sup>26</sup>. Perhaps James felt abandoned by his older brother and for this reason excluded him from his autobiography; we simply don't know. Equally, it might have been George's perception that he was unequal to his dynamic younger brother that made

him quit the Bridgewater Foundry<sup>27</sup>. Either way, George's leaving had a profound effect on what had been until this time a close, brotherly relationship from their earliest childhood. It is possible to sense that despite the huge financial success of the steam hammer, the heart had been torn out of James's Bridgewater Foundry.

In 1856, James Nasmyth, still only 48 years old, retired to Penshurst, Kent to enjoy the prosperity he had earned. He bought a substantial mansion, which he called Hammerfield. As he himself says, this was the first house that he had ever owned. Throughout his 20-year stay in Patricroft he had lived in rented property. We know that he lived in several locations; we know where some of these homes were; but we did not know with certainty the location of his main marital home, 'Fireside'. It was from Fireside that he made his early observations of the Moon, observations for which he was later to become famous. So, where was Fireside?

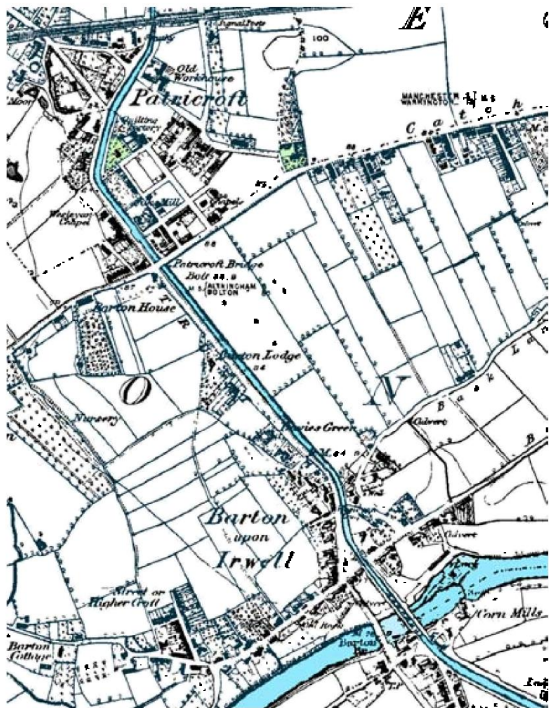
### Finding Fireside

Nasmyth's autobiography tells us that when he moved to Patricroft in 1836, he set up home in a small cottage in the village of Barton on the banks of the River Irwell, for which he paid an annual rent of £15. It was about a six-minute walk from his Bridgewater Foundry<sup>28</sup>. His sister Margaret was his housekeeper. He says that in the summer evenings he often walked among the apple orchards of his adopted village whilst contemplating his engineering business. James does not specifically state where that cottage was; indeed his autobiography leaves us entirely in the dark about exactly where he lived during his 20 years at Patricroft. As one of the largest manufactories in the area for over 100 years, it is perhaps surprising that the home of the Bridgewater Foundry's principal owner, the town's largest employer, is not better known. Once again, we have to rely on sources other than Nasmyth himself to tell us where he lived.

Patricroft was a localised district of no more than about one square mile; one of a small cluster of what had been mediaeval villages and hamlets, including Barton-upon-Irwell and Peel Green, a mile or so west of the ancient Lancashire town of Eccles, itself lying about five miles west of central Manchester (Figure 7). The centre of Patricroft still lies at Patricroft Bridge, where the Liverpool Road spans the Bridgewater canal, and from where Nasmyth first decided to build his factory as he rested on its parapet in 1830.

Where the Nasmyth brothers lived when they had their business in central Manchester is not known. However, it is known that by 1837 they lived in Green Lane House in Green Lane, the road flanking the east side of their factory, at its intersection with Catch Inn Lane<sup>29</sup>.





**Figure 7**  
**Location of Patricroft in relation to**  
**Barton-upon-Irwell**

North is at the top.  
500 m

Far from being a ‘small cottage’, as Nasmyth described it in his autobiography, the house was a substantial, late-eighteenth century, brick-built villa, with outbuildings and stables, standing in its own grounds (Figure 8). When Nasmyth lived there it would have been a very desirable residence in an attractive, semi-rural setting. From the its upstairs windows , Nasmyth could perhaps have seen the River Irwell in the distance, over three-quarters of a mile away beyond apple orchards and fields; but they are long gone<sup>30</sup>.

Before moving to London in 1843, George Nasmyth still lived at Green Lane House with his mother, Barbara , and his unmarried sisters, Jane, Barbara and Margaret, who are described in the 1841 census as landscape painters. They had removed from Edinburgh following the death of Alexander in 1840<sup>31</sup>. By then, James had married, and had gone to live half a mile away, at Winton House, Patricroft<sup>32</sup>.

In May 1840, James Nasmyth had married Anne Hartop, the daughter of one of his engineering clients from Barnsley, Yorkshire. He and Anne went to live at Winton House<sup>33</sup>. According to Patry, in the Sales Book 1837-1844 of the firm of Nasmyth, Gaskell & Co. there is an entry for James Nasmyth, Green Lane House, bearing the date 5 July 1840. On the following page is another, un-



**Figure 8**  
**Green Lane House, Nasmyth’s ‘small cottage’**

Photograph by the author, 2005.

dated, entry for James Nasmyth, of Winton House, Patricroft. Patry suspected that this Winton House was the same as the house Nasmyth later referred to in a letter to Robert Wilson<sup>34</sup>. This property fronted Worsley Road on the western bank of the Bridgewater canal, immediately north of Patricroft Bridge. It was owned by his friend, Lord Francis Egerton, later Earl of Ellesmere. Later Ordnance Survey maps show it as Ellesmere House<sup>35</sup>. Patry cites a drawing made by Nasmyth from his new home that shows local landmarks, thus confirming this location<sup>36</sup>. The 1841 census records neither James nor Anne as being at Patricroft, so it is assumed they were not in Eccles on census day.

Two years after his marriage, in 1842, James and Anne moved house, no more than a few hundred yards, but this time to the east bank of the Bridgewater Canal, on the inside of a sharp bend in the canal (Figure 9). This was a much smaller home, ‘surrounded by a nice garden, planted with trees and shrubs’. This house is the one that Nasmyth refers to and depicts in his autobiography as Fireside, so-called because the rooms were so small that he and his wife ‘were never far from the fire-side’<sup>37</sup>. James acknowledged that Fireside, ‘was small, but suitable for our requirement. We never needed to enlarge it, for we had no children to accommodate.’<sup>38</sup> Although wealthy, Nasmyth appears not to have sought to live in a larger property whilst in the Manchester area. According to James, he and Anne had a very contented marriage, and they lived at Fireside seemingly in comfort, and without any of the trappings of luxury<sup>39</sup>. There were few larger houses on the west side of Manchester; and Nasmyth was obviously happy to walk to work. To travel to Manchester and beyond, he took the train. He and Anne lived at Fireside from 1842 until his retirement to Penshurst, Kent in 1856<sup>40</sup>.

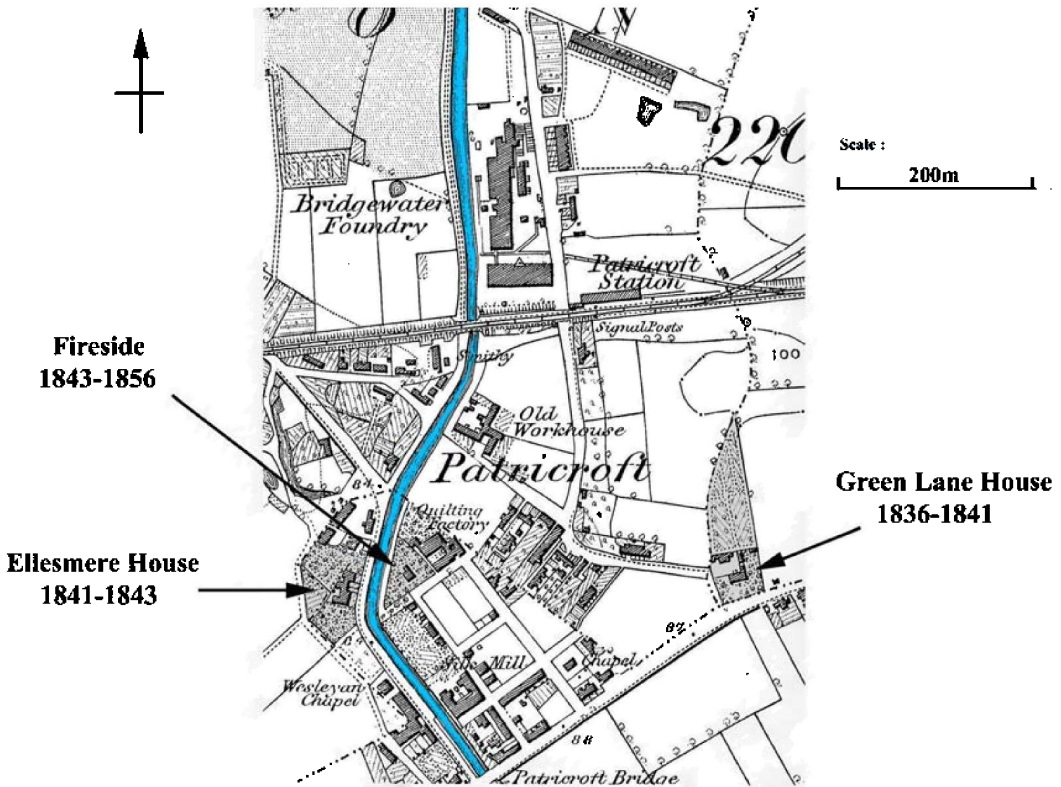


Figure 9

The locations of James Nasmyth’s three rented homes in Patricroft 1836 to 1856



Figure 10

Fireside, Patricroft  
after a drawing by James Nasmyth

Image from Nasmyth’s *Autobiography* (Reference 2).

Although clearly illustrated in his autobiography (Figure 10), and described as being on the banks of the Bridgewater Canal, within a 5-minute walk of the Bridgewater Foundry, the exact location of Fireside proved rather difficult to pin down. It has apparently not hitherto been described in the astronomical literature. It is thought that this is because very few investigators have approached the subject other than from a local history level. Nasmyth’s autobiography has proved to be too great a magnet to the astronomical historian.

Forty years after Nasmyth left Patricroft, in the summer of 1896, a newspaper reporter, Thorn Dene, also had difficulty locating Fireside until, by chance, a local gentleman, Councillor Thorpe, came forward with his own account of having lived there after Nasmyth had moved to Kent in 1856. From Thorpe’s description, Dene was able to paint a word picture of Nasmyth’s home as it was in the last decade of the nineteenth century<sup>41</sup>.

‘The approach to Fireside is by Legh Street, which runs off Liverpool Road [formerly Catch Inn Lane], from which thoroughfare the house can be seen quite well, for it forms the terminus of Legh Street and blocks its further extension. The front seems to have faced the east. Strange to say, there was only one window on this side<sup>42</sup>. The front door and front garden have disappeared as have also the row of trees that afforded such a beautiful screen. [...] Fireside can never have been a fine house. It was probably a middle-aged edifice when Mr Nasmyth came to Patricroft.

‘Probably the built out laboratory on the gable facing the canal was Mr Nasmyth’s doing. It has been added to the sitting room, and we are informed is just as he left it. The shelves were used by him whilst engaging in some of his scientific pursuits. [Probably a reference to Nasmyth’s growing interest in microscopy, but could easily have applied to his other experiments<sup>43</sup>.]



‘Mr Nasmyth was succeeded in the occupancy of the house by Mr Councillor Thorpe, who resided in it for twenty-one years [during which] the name was changed from Fireside to The Retreat. ... Since then it has fallen on evil days ... for five years it has been without a tenant ... the adjoining land has been built upon and one room is used as an office by Messrs William Crippen & Co. whose mill adjoins it so closely that you can look out of the front window of ‘Fireside’ and gaze right into the interior of the factory ...

‘The corner of the garden near the canal was the place usually occupied by the big telescope. A conservatory, which appears in Mr. Nasmyth’s own sketch of Fireside has long since disappeared.’

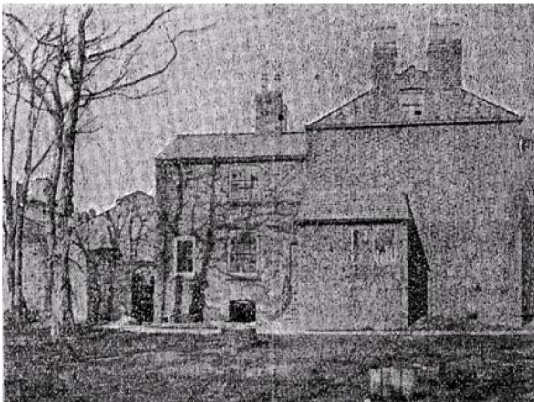


Figure 11

**Photograph of Fireside that accompanied the articles by Dene in 1896**

The original caption reads: “Fireside”, the home of James Nasmyth, showing the office in which Nasmyth made his plans and drawings. (see Reference 41).

Nasmyth probably erected the conservatory, as it does not appear on the 1848 Ordnance Survey map. Neither does the curved garden path, so he obviously spent some effort in landscaping the garden. Anne was fond of gardening; when they moved to Hammerfield he built a greenhouse for her<sup>44</sup>.

Fireside’s garden also had to accommodate his telescopes, especially the fixed 20-inch on its turntable mounting. By observing from the north-east corner, in front of the conservatory, he would have maximised his view to the south, south-west and west. He had to sacrifice visibility to the east and north-east because of the proximity of the textile mill. Scarcely 20 feet away from his garden, and rising to about 30 feet high, it would have completely blocked this aspect. The 1896 Ordnance Survey map (Figure 12) shows a small black dot that may indicate the location of the telescope; its surveyors would have appreciated the exactness of Nasmyth’s astronomical observatory. Its location tallies precisely with Nasmyth’s sketch (Figure 13).

The 1896 Ordnance Survey map shows The Retreat much as Nasmyth would have known it as

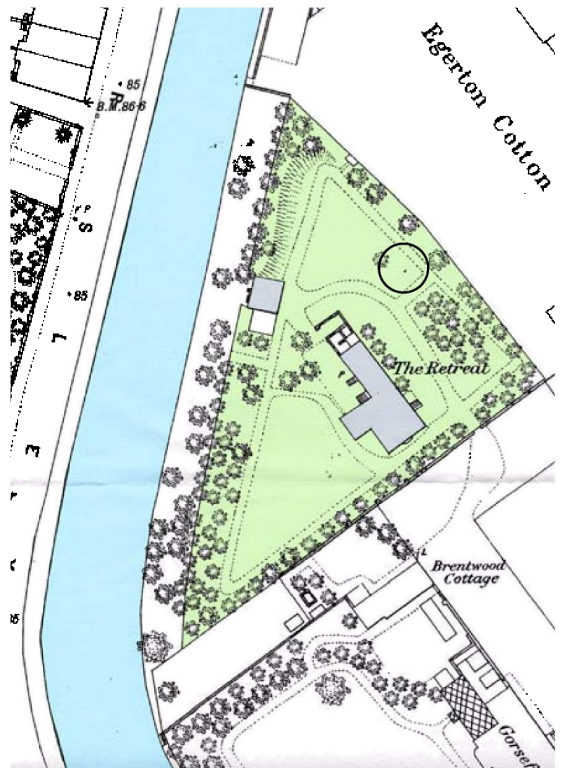


Figure 12

**Portion of the 1896 Ordnance Survey map of Patricroft, showing the location of ‘Fireside’, by then renamed ‘The Retreat’**

North is at the top. The ‘dot’ that is thought to show the location of Nasmyth’s 20-inch reflector is shown circled for clarity.



Figure 13

**Nasmyth’s 1850 drawing of Fireside**

The location of the 20-inch reflector can be judged by its relationship to the house. Anne Nasmyth is shown lightly sketched to the left of the porch.

Courtesy of the Central Library, Edinburgh.

Fireside, 50 years earlier, but minus his conservatory and the 20-inch telescope. It was probably surveyed before Dene published his piece, and could have retained the location of his telescope from earlier surveys. The map shows the house, overshadowed by the nearby textile mill, much as it was during Nasmyth’s tenure. However, by the time the map was published, and when Dene photographed it

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in 1896, the house was semi-derelict and had been incorporated into the adjacent factory. An extension to the factory had encroached into the garden and it might have abutted the house wall. This sorry state lasted another 60 years. In 1954 the house was photographed from the air and it is clearly in poor condition (Figure 14). It was demolished in the late 1950s, almost exactly 100 years after James left it. Where it once stood is now (2005) an unmetalled car park for the industrial units occupying Crippen’s mill, formerly the Egerton Cotton Mill.

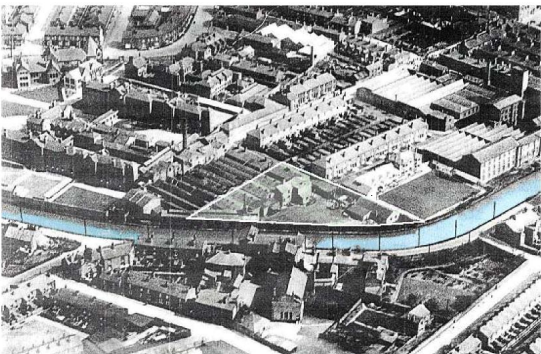


Figure 14

Aerial view in 1954 of the former ‘Fireside’

The location of Fireside, on the east bank of the Bridgewater Canal, is outlined in white. See also Figures 2, 9 and 12.  
The credit for this image is uncertain.

In 1856 James Nasmyth left his Bridgewater Foundry forever and retired to Kent. It continued to be a thriving, independent, heavy-engineering company until 1939, when it became a British Ordnance factory. Since the 1960s, the site has declined, and the main buildings have mostly been demolished. It is now home to several small industrial units. Nasmyth’s original factory is hardly discernible, and Fireside has long since gone.

Nasmyth’s sketch showed Fireside from the south-east, from a position in nearby Spencer Street, looking quaint set against its background of trees and landscaped garden. Dene’s photograph from the south-west shows the house unoccupied, with the factory in the background. Combining these views with a 1898 Ordnance Survey map and the 1954 aerial photograph, Longshaw (see Acknowledgements), prepared detailed 1:200 plan and elevations of Fireside (Figure 15)<sup>45</sup>.

This is perhaps the only modern architectural drawing of Fireside that has been attempted. It shows the house to have been rather ugly. In 1971, Miss Patry said it was ‘of red brick, by no means large [and] of an order of architecture it would be hard to describe ... Early Eccles, lop-sided with additions.’<sup>6</sup> Nevertheless, it was home to James and Anne Nasmyth for 14 years. We now know where

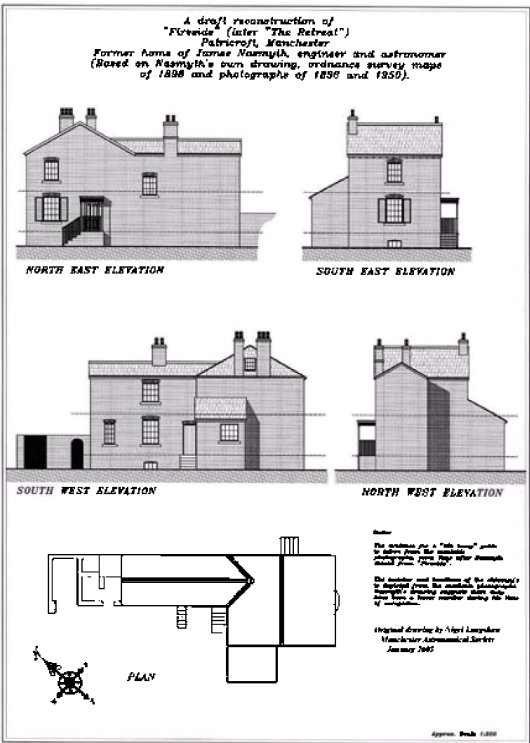


Figure 15

Fireside reconstructed from drawings, photographs and maps

Courtesy of Mr N. Longshaw.

Fireside stood, and from where he began his interest in observational astronomy, using one of the most unusual of telescopes of the mid-19th century.

Acknowledgements

Dr John A. Cantrell teaches history at The Manchester Grammar School and has long held an interest in Nasmyth, both the engineer and the man. He has written and edited a number of books and many papers on the early UK engineering industry. John has provided me with many important Nasmyth biographical details.

The late Miss M. Patry, B.A., F.L.A. Eccles & District History Society. Her research in the 1960s provides the most compelling arguments for the identification of Nasmyth’s several homes during the 20 years he lived at Patricroft. She also did much research into Nasmyth’s family, particularly his sisters, after they had moved to London.

Mr Tim Ashworth. Salford Local History Librarian. Salford Archives. Tim has provided much local detail of the Nasmyths at Patricroft and copies of maps reproduced with permission.

Mr John Aldred. *James Nasmyth*, lecture to Eccles & District History Society. 12 January 2005.

Mr A.W. Cross, former president, Manchester Astronomical Society. Tony’s enthusiasm for research into James Nasmyth’s lost gardens of Fireside inspired me beyond my abortive and totally misinterpreted initial attempt of November 2004.

Mr Nigel Longshaw. Manchester Astronomical Society. An expert lunar cartographer in his own right, his January 2005, professional architectural drawings of Fireside are undoubtedly the most detailed ever attempted in reconstructing Nasmyth’s last home at Patricroft.



Mrs Lynn Benson. Queens Arms, Patricroft. Nasmyth historian and publican.

Mrs Mary Hoot. Reference Section Librarian, Taylor Memorial Library, Cuyahoga Falls, Ohio. On a visit to the U.S.A. (March 2005) Mary kindly facilitated the provision to me of photocopies of Dobson's book from a copy held at Akron-Summit County Public Library, Akron, Ohio.

## Notes and References

- 1 Cantrell, J.A. *The Bridgewater Foundry 1836-1940: the rise and fall of a famous firm*. British Association for Local History. November 2004. 34(4). For an outline of the name changes of the Foundry, and the types and numbers of steam locomotives built there, see: Lowe, James W. *British Steam Locomotive Builders*. Cambridge: Goose and Son Publishers Ltd., 1975. 497-499.
- 2 Nasmyth, J. *James Nasmyth, Engineer: An autobiography*. Ed. Smiles, Samuel. London: John Murray, 1883.
- 3 Chapman suggests that Smiles probably reworked Nasmyth's account to show him in the best possible light as engineer, gentleman astronomer and pioneering scientist [see Chapman, A. *James Nasmyth: Astronomer of Fire*. In: *Yearbook of Astronomy*, 1997. Ed. Moore, Patrick. London: Macmillan, 1996. 143-167.] The autobiography does not show the important supporting roles played by his brother, George, nor that of his other business partners.
- 4 George James Nasmyth (1806-1862).
- 5 James Hall Nasmyth (1808-1890) was youngest of four sons and seven daughters born between 1787 and 1808. His mother, Barbara (née Foulis) was married to Alexander on 3 January 1786. The close family environment is not only written about fondly by James, but is often commented upon by Alexander's closest friends.
- 6 Patry, M. *Talking about Nasmyth*. Presidential address to the Eccles & District History Society, 8 September 1971. The house is illustrated on page 40 of Nasmyth's autobiography, but Miss Patry emphasises that the Nasmyth home is the house to the right in the building illustrated. It has a single ground-floor window flanking its door. It is not the house to the left having two ground-floor windows. Patry's paper is available from the Eccles & District History Society.
- 7 James and George collaborated in this project, which was proposed by them in a letter dated 19 March 1828. [see Note 39 in *Two Maudslay Protégés*: Francis Lewis and George Nasmyth. *Transactions of the Newcomen Society*. 2003. 73 (2). 257-274.] In his autobiography, James implies that he alone who provided the machine. This demonstrates his zeal to be seen as being first in any doings involving him and his brother, a theme that completely overtook his autobiography.
- 8 Ten people, if the sketch in Nasmyth's autobiography [Reference 2 above] is to be believed.
- 9 Cantrell, J.A. *Two Maudslay Protégés*: Francis Lewis and George Nasmyth. *Transactions of the Newcomen Society*, 2003. 73(2) 257-274.
- 10 Indicated in a letter from James Nasmyth to David Octavius Hill, Royal Observatory, Edinburgh, 5 August 1835. [see Cantrell, J.A. Reference 9 above].
- 11 One of Nasmyth's daughters, Anne (born 1798), later married William Bennett [Patry, Note 6 above].
- 12 The mill no longer exists. Redevelopment, and the effects of the blitz of Manchester during World War 2, have erased all traces of it. Dale Street now (2005) comprises about 5 blocks of closely-spaced properties dating from the early 1800s. However, the 1850 Ordnance Survey map of Manchester shows in Dale Street an iron warehouse that in many respects fits a sketch by Alexander Nasmyth of James and Georges' premises, which stood end-on to Dale Street. If this is the case, the building is still (2005) in existence.
- 13 It is not known where the Nasmyth brothers lived in Manchester between 1834 and 1836, but it was probably close to the Dale Street workshop.
- 14 As a condition of leasing the site for a 2-storey engineering factory, the Nasmyths were obliged to build a multi-storey factory block, adjoining the railway at the southern end of the site, which if necessary could be turned into a cotton mill. This would, under normal leasehold conditions, revert to the ground landlord at the expiry of the term of the lease.
- 15 Initially the rent for this canal access was high, but Nasmyth soon negotiated very favourable terms with Lord Francis Egerton, later Lord Ellesmere, heir to the Bridgewater estates. They became lifelong friends. The Bridgewater Canal, opened in 1765, built for the Duke of Bridgewater by James Brindley, was the first long artificial canal (as distinct from canalised natural waterways). The 'canal age' proper is considered to have started in 1777, when Brindley completed the Trent and Mersey canal, the first to cross a watershed.
- 16 Alexander Nasmyth illustrated the Bridgewater Foundry in Nasmyth's autobiography [Reference 2 above]. The drawing was probably made in 1838, during Alexander's last visit to Patricroft. Curiously, it does not show the Patricroft Tavern, but neither is the high viewpoint, south-west of the Foundry from which to gain this perspective, entirely correct.
- 17 Cantrell, J. A. James Nasmyth and the Bridgewater Foundry: Partners and Partnerships. *Business History*. November 1981. XXIII(3).
- 18 They also had a 'sleeping partner', Henry Garnett, of Wyre Side, near Lancaster.
- 19 Cantrell, J.A. [Reference 1 above].
- 20 Gaskell sold out in 1852 due to ill health and the firm reverted to the name James Nasmyth & Co. See also Note 1.
- 21 The Creuzot Iron Works in France also lay claim to patenting the steam hammer in 1841, and there is controversy surrounding exactly who invented the device. According to Nasmyth, about two years earlier their M. Schneider accompanied by an engineer, M. Bourdon, visited the Bridgewater Foundry to order machine tools. Nasmyth was absent, but Gaskell took them on a tour of the works and also showed them his partner's 'Scheme Book' in which, among many others was the design for the steam hammer. They were at once struck by its originality and made careful notes of it, after which the matter was forgotten. In April 1840, Nasmyth visited France, and took the opportunity to visit the Creuzot Works. On going round the factory, he found his own steam-hammer at work! The Creuzot design was nearly identical to his own. Upon returning to England, Nasmyth immediately patented the steam hammer and began to manufacture them for the British and American market, Creuzot's steam hammer being essentially confined to the French and German markets.
- 22 Chandler, George. *Victorian and Edwardian Manchester and East Lancashire from Old Photographs*. London: Fitzhouse, 1990. In this book, the present Figure 6 is credited to the City Librarian, Manchester, but there is no detail on its origin.
- 23 Holbrook Gaskell was a cousin of William Gaskell, a Unitarian Minister, whose wife Elizabeth became a well-known novelist. There were regular visits between William and Elizabeth, and the Nasmyth brothers' homes. Elizabeth Gaskell used James Nasmyth as a model for Mr Manning in her novel *Cousin Phillis*, who, like Nasmyth, always had with him a little book that he used for mechanical memoranda and measurements [Patry, Note 6 above].
- 24 Nasmyth was an active member of the Manchester Literary and Philosophical Society and various engineering associations. He published his astronomical researches on his lunar observations and his studies of solar granulation in the *Monthly Notices of the Royal Astronomical Society*. His work on the Moon was published in Nasmyth, James and Carpenter, James. *The Moon Considered as a Planet, a World, and a Satellite*. London: John Murray, 1st edition 1874.
- 25 George moved to London in 1843, probably as a result of the 1842 financial recession, when the income of the Bridgewater Foundry fell dramatically; perhaps he felt personally responsible. In leaving, he missed the vast profits that followed the patenting of James Nasmyth's steam hammer, which made

## The Lost Gardens of Fireside

- fortunes for him and Holbrook Gaskell. George became a consulting engineer in partnership with Charles Lewsey, Consulting Engineers, Negotiators, Valuers and Arbitrators [Cantrell, J.A. Reference 9 above]. Their company continued to negotiate sales for the Bridgewater Foundry, but by then the family rift had probably become permanent. He married Isabella Sanford (died 1912), but, like James and Anne, George and Isabella had no children. [Patry, Note 6 above].
- 26 In 1857 George Nasmyth was appointed the first curator of the Patent Museum, but in 1859 he was suspended 'on suspicion of appropriating to his own use the public money entrusted to him', and was sacked. It is estimated that he might have misappropriated about £403 in total [Cantrell, J.A. Reference 9 above]. This event may explain why George is scarcely mentioned in James's *Autobiography*. George emigrated to the U.S.A. He died in Louisville, Kentucky, on 2 July 1862 [Dobson, D. *Scots in the USA and Canada, 1825-1875*. Baltimore, Maryland, U.S.A: Clearfield Publishing, 2002. 81].
  - 27 There is circumstantial evidence, in a letter by Hunter Gaskell to his brother, Holbrook, suggesting that both George and Holbrook had a lot to put up with from James Nasmyth. There may well have been some serious differences of opinion between the two Nasmyth brothers [Patry, Note 6 above].
  - 28 The area extending from Barton-upon-Irwell, and including Patricroft, was until quite recently (2005) known simply as Barton [Personal communication from L. Benson].
  - 29 *Pigot's Manchester and Salford Directory*. 1837 and 1838.
  - 30 Green Lane House, or The Poplars, as it is shown on the 1896 Ordnance Survey map, was later owned by the British aviation pioneer, A.V. Roe. It still (2005) stands, although late Victorian and early twentieth century Edwardian properties now encroach upon it.
  - 31 Their presence at Green lane House is recorded in the 1841 census, but after George went to London in 1843, Mrs. Nasmyth and her daughters removed to Richmond Terrace, Pendleton, a district of Salford about two miles east of Eccles. Richmond Terrace was just around the corner from Leaf Square where one of her married daughters, Anne, lived with her husband William Bennet. Mrs. Barbara Nasmyth died in 1846, and her unmarried daughters subsequently went to live in London [Patry, Note 6 above].
  - 32 *Pigot and Slater's Manchester Directory*. 1841.
  - 33 The 1848 Ordnance Survey map shows a Winton House owned by a local farmer, 1 mile north-west of the Bridgewater Foundry. However, M. Patry considered (supported by other evidence) that Nasmyth's first marital home was not this one, but was Ellesmere House, then owned by Lord Ellesmere. In the period 1840 to 1842, James Nasmyth rented Ellesmere House for £60 per annum, but presumably, because he and Anne had no children during their first 2 years of marriage, decided that Ellesmere House was too big for them.
  - 34 On 22 October 1855 James Nasmyth wrote to Robert Wilson (1803-1882), former factory manager of the Bridgewater Foundry and now James's successor as working partner, advising him that he once rented Ellesmere House, the agent being 'Daniel Bradshaw, auctioneer, [at] Winton'. [Winton is a district of Eccles, 1 mile north-west of Ellesmere House; hereby the possible confusion with the other Winton House.] He advised Wilson, if interested, to correspond with Bradshaw: 'he will tell you all about it'. Robert Wilson subsequently owned Ellesmere House from 1857 until his executors sold it in 1884. [M. Patry, from a copy of a letter referred to, supplied to her by the Newcomen Society].
  - 35 Ellesmere House later became part of St. Joseph's Children's Home. It was demolished in the 1960s.
  - 36 Drawing entitled 'View from my house at Patricroft, N[ear] Manchester.' Dated 1841 and signed by James Nasmyth, now in the National Library of Scotland, Edinburgh.
  - 37 According to a note on the back of a drawing of Fireside, which is now in the Central Library, Edinburgh.
  - 38 James and Anne Nasmyth had no children, but soon after leaving Patricroft and moving to Kent, James started a long-lasting affair with Virtue Squibb (c1830-1885). She was born in Sutton Poyntz, near Weymouth, and may have met Nasmyth whilst working in domestic service in London. During the affair, she adopted the name of Mrs Russell (or possibly Richardson, after her married sister, Mary). Nasmyth set up Virtue in a large house in Lupus Street, Pimlico, London, where her occupation is noted as Lodging House Keeper (1861 census). James Nasmyth's illegitimate daughter, Minnie, was born c1858 (her birth certificate has not been found). Mr. Chris Abbott, great grandson of Virtue Squibb, thinks that Nasmyth probably stopped supporting Virtue after Minnie was married in 1880 (as Minnie Russell or Richardson). In 1884, Virtue married Samuel Heath Head, a solicitor, and moved back to Sutton Poyntz, but probably in severely reduced circumstances. She died of cirrhosis of the liver in June 1885, by which time her husband is thought to have absconded with a considerable amount of her money, presumably provided by Nasmyth during their more than 20-year relationship. Nasmyth's daughter, Minnie, died in 1940. [www.sutton-poyntz.co.uk/my\_forum/posts/32.html accessed February 2005, and Personal communication from J.A. Cantrell, March 2005]. See also two letters dated 1880, from James Nasmyth to his mistress, Virtue Squibb (alias Emily Russell); a letter from Virtue Squibb to their daughter Minnie; and a letter from Nasmyth to Minnie dated 1885. The letters are accompanied by notes compiled by J.A. Cantrell, Stockport, Cheshire. [National Library of Scotland, Accession number 11882.]
  - 39 Nasmyth's partner, Holbrook Gaskell bought Gorsefield, the property whose garden abutted that of Fireside on its south side. Their houses were about 50 yards apart. Gorsefield still stands in Legh Street, facing the bank of the Bridgewater Canal. It is now (2005) Patricroft Working Men's Club.
  - 40 The 1851 census for Barton-upon-Irwell (Number of Householders Schedule, Page 31) has James Nasmyth, engineer, living at Gorsey, Patricroft, which according to Tim Ashworth (see Acknowledgements) was the area at the north of Legh Street. Nasmyth's age is given as 43 years. Anne Nasmyth, wife, age 33 years. They have 2 house servants, Ann Hellaby, age 25 years, and Jane [Johnson ?], age [28 ?]. The words in brackets are unclear in the Census return.
  - 41 Dene, T. *Eccles & Patricroft Journal*. 8 and 15 May 1896.
  - 42 Nasmyth's drawing of Fireside in his autobiography shows 3 windows on the north-east elevation.
  - 43 In a letter to the Editor, it was suggested that Fireside could be used as a museum of industrial and natural curiosities. *Eccles & Patricroft Journal*. 18 June 1897. 8.
  - 44 In 1850 Nasmyth drew 'a very correct drawing of my residence at Patricroft near Manchester where I resided from 1842-1856'. The pen and ink drawing is in the Central Library, Edinburgh. It includes a female figure, presumably his wife, Anne, which was omitted in the almost-identical illustration, labelled 'after a drawing by James Nasmyth', that was published in his autobiography in 1883. These facts beg the question: why did Nasmyth exclude his wife from the 1883 illustration?
  - 45 The sources given in the header to Figure 15 are: Nasmyth's sketches (reproduced as Figures 10 and 13 in this paper); Ordnance Survey 1898, Lancashire, Eccles, Sheet CIII.7.23, scale 10 feet to 1 mile; and the 1954 aerial photograph reproduced as Figure 14 in this paper.

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