

THE BUILDING OF THE LAXEY WHEEL

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Abstract: Conflicting claims indicate that the Great Laxey Wheel was either entirely cast and built on the Isle of Man, or in Liverpool or in Wigan. The evidence is incomplete and much of it based on hearsay, but it seems likely that the castings were supplied from Liverpool, though possibly sublet for casting to a foundry in Wigan. Smaller parts were made on the Isle of Man and the wheel was assembled on site.

INTRODUCTION

"Who Built the Laxey Wheel?" is a question which can still be regularly heard in the Isle of Man, both in conversation and in the local press. It seems strange that this question should still be asked, as the Laxey Wheel was built over 133 years ago. Yet the it is still debated today, and at times quite fiercely.

The "Lady Isabella", or the Laxey Wheel, is situated eight miles north east of the Island's capital, Douglas, at the former mining village of Laxey, in a picturesque valley running eastwards from Snaefell to the village on the coast, a distance of some three miles.

Today, visitors to the area could be excused for not realising that this was once the home of one of the most productive lead and zinc mines in Britain, as the huge waste heaps and the dirty washing floors which so disfigured the area disappeared many years ago.

The only real clue to the scale of past operations is the massive "Lady Isabella", 72ft. 6in. in diameter and which was commissioned in September, 1854, to pump water out of the mine and is now preserved in working order.

It was following the "Lady Isabella's" escape from the hands of the scrapmen and subsequent preservation in 1937, that the controversy over who built it began and which continues today.

It is the aim of this article to tell the story of the wheel's construction and to examine all the facts and arguments put forward to, hopefully, answer the question fully.

The main source of information contained within this history has been the Manx Museum at Douglas. Unfortunately, their collection is not complete but the mining records that are in their possession, the Kirk Lonan Mining Association Committee Books 1822-29 and 1829-49, and the Charge Book 1845-55 have been very useful indeed. Regrettably the most important minute book, that dealing from the time of the wheel's construction, is missing. Newspaper reports from this period have also been very useful, but give very little detail, preferring, as would be expected, to concentrate on the financial successes of the mine. No sources of information outside the Isle of Man have been used.

BUILDING THE "LADY ISABELLA"

Although the "Lady Isabella" was the largest waterwheel at the Laxey Mines, it was by no means the first. The first documented account of mining at Laxey dates from 1782 but work did not seriously commence until 1822, with the formation of the Kirk Lonan Mining Association. The following year saw the first real problems with water flooding the workings. A waterwheel to drive new pumps was discussed, but as funds were tight, the plan was not adopted.

By May, 1928, the problem of water filling the lower level could no longer be ignored, and a waterwheel of 26 feet diameter and 3ft 6in width, driving new pumps in what was later to become the Engine Shaft, was constructed. The stone well and case for this waterwheel were incorporated into the Beam Engine House in 1846.

A second pumping wheel had appeared by 1843 and was situated just upstream from the site of the later "Lady Isabella". Very little is known about this wheel, but it was at least 45 feet in diameter. It was demolished after the "Lady Isabella" came into use.

The output of the Laxey Mines now steadily increased and mining operations became very profitable indeed. The mine was also rapidly increasing in depth and problems were again being experienced with water filling the lower levels.

Evidently, the two pumping plants were unable to cope with the influx of water (by this time the earlier waterwheel had been replaced by a steam operated plant) and the Mining Company was again faced with the need for a further pumping device.

Oral tradition asserts that a meeting was called by the Mining Company management to discuss the ever increasing threat of flooding. It was suggested that a second 45 feet diameter waterwheel, similar to that already at the mine, should be constructed. However, the Mining Company's Engineer, Robert Casement, argued that the problem could only be solved by building a massive waterwheel, almost twice the size of those already at the mine. His proposals were accepted.

That Casement was given the go-ahead for such an idea, indicates the respect that he held from within, and also from outside, the company. He had already designed the re-equipped Beam Engine House and the new Washing Floors, which were said to be an outstanding success by all connected with the Company. Following the construction of the "Lady Isabella", Casement went on to build the water turbine Machine House at the mine, and the Laxey Glen Flour Mills, privately owned by the Mines Captain, Richard Rowe.

At what date this meeting took place went unrecorded, but the decision to build the new waterwheel must have been taken no later than the latter part of 1849.

A copy of Robert Casement's original drawing for the new waterwheel still survives and is illustrated in Anders Jespersen's "The Great Laxey Waterwheel", reproduced here as Fig. 1. His original idea was for a waterwheel similar to those already in use on the Island, but much bigger, and almost identical to the one built at the Snaefell Mine in 1865. The most obvious difference from the "Lady Isabella" as built, is the method of water supply, Casement's original intention being a wooden overhead trough; the stone tower with its internal water feed and external spiral staircase did not feature. It could be argued that the "Lady Isabella" bears almost no relation to the original sketch.

In February, 1850, plans were obviously well advanced - the mines Captain, Richard Rowe, had received travelling expenses of £15 for visits to London and Manchester concerning castings for the new wheel. He was again off the Island in June, 1850, this time to Liverpool, with "patterns for the new waterwheel" and received £15 10s expenses. Then on November 26th, 1850, the Mersey Steel and Iron Company received the very large sum of £1111 3s for castings. Rowe visited Liverpool a further three times in connection with the new castings and Casement himself had been to a foundry in Liverpool in September, 1850.

The large payment to the Mersey Steel and Iron Company most likely relates to the axle, crank and hub which arrived in Laxey in March, 1851, on board the "Jane and Agnes", a small vessel belonging to one of the Company's directors, who was paid the sum of £56 2s 8d for the use of the boat.

Laxey was without any proper harbour facilities at this time, so the vessel was brought as close as possible to the shore at high tide, whereupon all the large castings (the axle weighs 10 tons) were deposited overboard into the sea. At low tide the new castings were retrieved and pulled up the beach and glen to the construction site by a team of miners.

A story still to be heard amongst older residents of Laxey tells of an incident during the moving of the axle from the beach. Whilst the team of men were pulling the axle up the glen, the rope snapped and all but one of the miners fell forwards. The lone miner who remained on his feet was instantly dismissed from the Company for not pulling his weight!

The beginning of construction was reported in the "Manx Sun" in May, 1851, which reported that an "Immense 82 ft diameter waterwheel is about being erected at the Laxey Mines to drive a pump to keep the mines clear of water. The axle of this wheel weighs nearly 10 tons of wrought iron". 82 feet was obviously a misprint for 72 feet.

At the same time work began in the Engine Shaft between the old level, which leads from the river back at the waterfall, and the surface. The shaft must have been quite small between these points

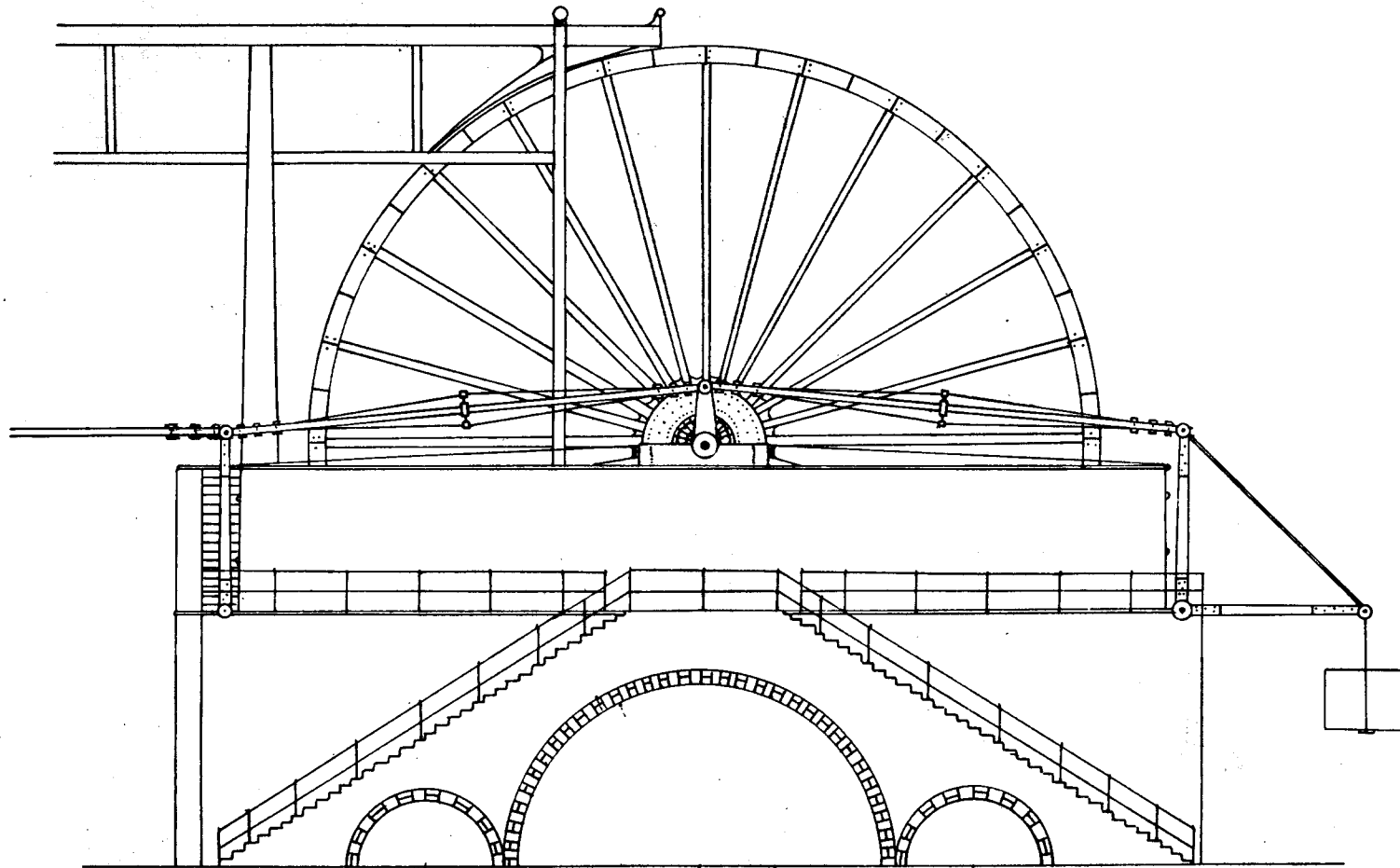


Fig. 1. Redrawn version of Robert Casement's original design of the Laxey Wheel after the original in the Manx Museum. A photograph of the original is in Jespersen's book.

and needed widening to take the pumping gear. the work was recorded as such in the Company's Charge Book.

A second batch of construction materials arrived in late March, this time at Douglas, the cargo being a batch of timber, described in the Charge Book as "long timber", the only such description of timber in the book. It is said that the spokes, rods and other timber were fashioned in a sawmill in a barn at Baljean Farm, on an estate owned by the Company Chairman. This building was supposedly the only one in the area long enough for the purpose.

The quarrying and building process was being carried out continuously. Stone was obtained on the east bank of the Glen Mocar river just upstream from the work site and next to the mouth of the old level.

Construction continued. Work in widening the Engine shaft was completed by March, 1852, when attention was transferred to the area around the shaft mouth, to commence construction of the "fend-off" and "T Rocker". A beam engine expert, one Edward Bowden, spent at least two years on the Island advising on the rod system. He is listed in the Manx 1851 census and his youngest child at this time two years old, is shown as being born on the Island, suggesting that Bowden was closely involved from the beginning of construction. The Engine Shaft was at this time at a depth of 160 fathoms.

By April, 1852, the small cross-cut at the mouth of the shaft for the fend-off had been cut and the fend-off arm, linking the first pump rod from the T-rocker to convert the vertical movement to angle of the shaft, was being installed. Work continued in this area until June, 1852.

Nothing more appears in the Charge Book referring to the "Lady Isabella", apart from the purchase of likely construction materials, until January, 1853, when the sum of 15s was paid to one Thomas Henry for the "rent of land under machinery for wheel".

Rowe was again off the Island in April, 1853, concerning castings for the "new wheel", and at the same time work again concentrated in the Engine Shaft. New stays and beams were fitted down the entire length of the shaft in readiness for fitting of the new pump rods. Sinking of the shaft continued - it was now 180 fm deep.

Further consignments of castings arrived in July, 1853, again on board the "Jane and Agnes", and on a second vessel, "Rebecca".

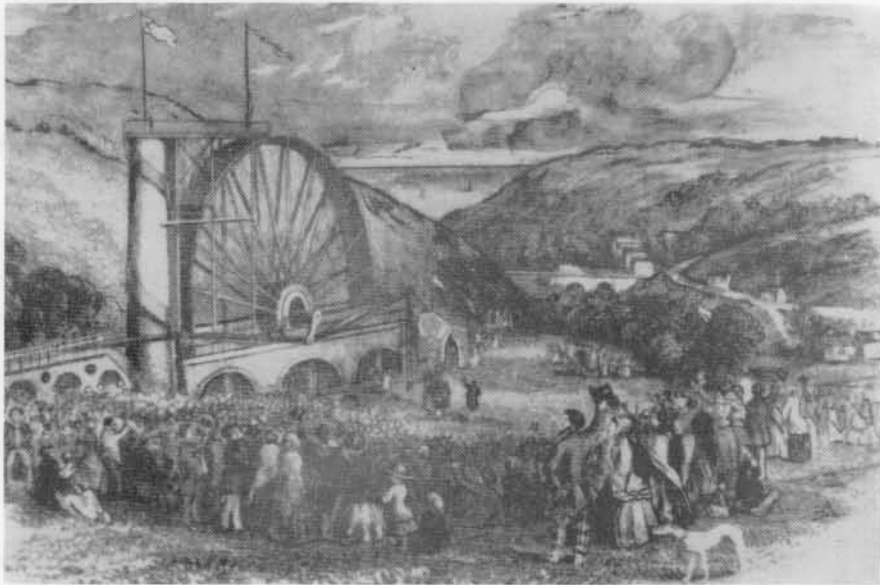
The fixing of the new rods in the Engine Shaft continued and in October one of the balance rockers in the shaft was completed. Another large cargo of castings arrived on the "Jane and Agnes" and a payment of £733 2s 4d was paid out to D. Cook and Company for castings, but unfortunately the "Charge Book" failed to give their address. It is possible that these castings were not destined for the "Lady Isabella" as the construction of the waterwheel must have been almost complete by this time. There is no direct mention of any construction relating to the "Lady Isabella" from this date onward in the charge book.

No date has yet been determined for completion of construction work. The only clue found comes from the "Mona's Herald", which in April 1854 reported the opening of the new main road through Laxey village. The report noted that the road passed close to the "large waterwheel recently erected for the purpose of unwatering the mines". The wording gives the impression that the wheel was now at work - the date ties in with the lack of construction notes in the Charge Book.

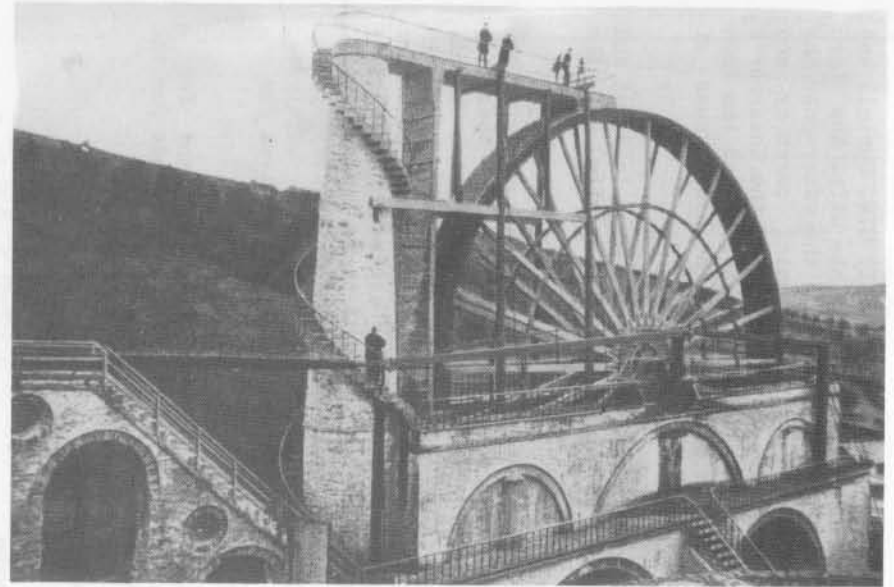
OPENING CEREMONY

The Opening Ceremony of the "Lady Isabella" was set for 27th September, 1854, and was fully recorded in the "Manx Sun", whilst the "Mona's Herald" contained only a small scathing report of the proceedings. The proprietor of the "Herald", one Robert Faragher, was constantly at odds with G.W. Dumbell, the Company Chairman, over their various political beliefs (Dumbell was a member of the Manx Parliament, the House of Keys). Faragher was at one time imprisoned for the material published in the "Herald", so it is not surprising that no invitation was received at their office to attend the event.

The following notes are taken from the "Manx Sun's" lengthy notes. The day broke beautifully fine and some 3000 to 4000 people arrived from all parts of the Island, at Laxey. Invitations had been sent to members of the Insular Legislature, principal officials and gentry of the Island. On the arrival of the Governor, Charles Hope, and his wife, Lady Isabella, a procession, with two bands and



1. Opening ceremony of Lady Isabella, 27th Sept. 1854. View looking SE towards Laxey village.



2. Lady Isabella about 1900, still in use driving the mine pumps.



3. Robert Casement, engineer to the Great Laxey Mining Co.



4. Alma House in Laxey, built for Robert Casement by the Laxey Mining Co upon completion of Lady Isabella; photo c.1930.

the 600 mines workmen, walked from the washing floors to the new wheel, led by G.W. Dumbell and Captain Rowe. On arriving at the wheel, Captain Rowe conducted the Governor and his wife, the Lord Bishop and his wife, and Mrs. Dumbell to the first platform. The Governor let the water onto the wheel, which immediately began to turn, whilst Mrs Dumbell performed the christening ceremony and broke a bottle of champagne onto the wheel and named it "Lady Isabella" in honour of the Governor's wife. A flag was unfurled on the top platform to the sound of the work people cheering and the boom of a cannon. The party climbed the spiral staircase to the top platform, where the smoothness of the wheel was remarked upon - "not the least tremor could be felt".

The workpeople then made their way over to the neighbouring green where benches were laid out and were treated to a meal of beef and potatoes, with a good supply of ginger beer and milk for the teetotalists.

The invited guests, about 140, moved to a large wooden building erected on the green for the occasion, where a "sumptuous repast" was provided. Several toasts were given, including ones for The Queen, Prince Albert and the Royal Family, Lady Isabella, the Governor, the Bishop, the Church, the Chairman, Captain Rowe, The Archdeacon and Clergy, the Ladies, the Commissioners of Woods and Forests, their Agent and Robert Casement. Mr. Dumbell then gave Captain Rowe his thanks and mentioned the success which followed his employment. Captain Rowe in replying expressed his belief that the Laxey valley would be silent but for Mr Dumbell and the 600 miners and their families would be seeking employment elsewhere. He gave Robert Casement "full credit for the ability displayed by him in designing and constructing the wheel and payed a high compliment to his self cultivated talents". Various other members of the company paid tribute to and thanked themselves for the success of the concern.

Following a request by the workmen to Captain Rowe, the wooden building was allowed to stand for a few days in order to hold a tea meeting, a charge of 1s being made on entry. The proceeds for the meeting were given to the poor of the parish - a sum of over £20.

Rowe received £182 2s 5d expenses for the ceremony in November, 1854.

ROBERT CASEMENT, ENGINEER

Robert Casement, the engineer to the Laxey Mining Company and the designer of the Laxey Wheel, was born in Lonan in early 1815 to John Casement of Lonan and Catherine Whyte from Peel, on the Island. Robert was the eldest of seven children. His father was a millwright and is said to have also worked at the Laxey Mines, although no mention of him has been found, in any old books or reports.

Robert, at this time already known as an engineer, was married on 12th September, 1840, to a Scotswoman, Agnes Thompson, the first of their ten children being born in May, 1841. One of his sons became a millwright, as were two of Robert's brothers.

Following the death of Edward Partleton, the engineer to the Laxey Mining Company, on a boat crossing to Whitehaven in August 1842, Casement was appointed to the position in his place. Besides the construction of the "Lady Isabella", Robert is also credited with the design of the new washing floors and the Engine and Machine Houses. Although not connected with the Mines, Captain Rowe's flour mill, opened in June, 1861, was built to one of Casement's designs.

During the construction of the "Lady Isabella", Robert Casement was reported to have received a salary of £27 per annum and on the completion of the wheel was given a gift of £50, when his salary also appears to have been increased to £100 per annum. The grateful Mines Company also built him a new house, believed to be "Alma House", now called "Hillcrest", on the Baldhoon Road at Laxey, which stands on part of the estate once owned by Captain Rowe.

Casement was badly injured in February, 1855, when an iron stay on one of the Company's waterwheels broke and hit him, throwing him a considerable distance and concussing him. His face and head was badly cut and bruised and his body badly bruised.

It appears that Robert Casement remained with the Mines Company until the early 1860s, but then resigned, the reason being a mystery but thought to have followed a disagreement with the management, in particular Captain Rowe.

An old letter from the time, and addressed to the Mining Company, states that its writer was told by a Laxey miner that the "Company would not have a Manxman that has low salary to conduct the mine, that had not a horse to ride on or a vehicle of any description to carry him to town or market, or

servants to attend to him".

This statement is very odd indeed - why should a man of such obvious talent and ability be dismissed for such a reason? There was obviously much more to the disagreement between Casement and the Company. Such a reason has not been found, but research has shown that Casement was without carriages and servants, whereas Captain Rowe had two servants, a nurse, a kitchen maid, a house maid and a gardener!

However, by December, 1867, Casement was no longer employed by the Great Laxey Mining Company, and had been appointed engineer to the Douglas Iron Pier Promenade Company who were about to construct a pier in Douglas Bay. He was not responsible for the design of the pier, but was responsible for choosing the design and the supervision of the construction. The pier remained at Douglas until the period of about the First World War, when it was dismantled and re-erected at a North Wales resort, possibly Colwyn Bay.

After leaving the Iron Pier Company, Casement opened his own business manufacturing steam engines, waterwheels, turbines, pumps, flour, woollen, paper and linen mills, threshing and reaping machines and washing machinery for lead mines, amongst many other things! His house at Laxey was offered for sale in the local press in 1869.

Then, according to an old Manx story, he went to Mexico and constructed a waterwheel 1 inch greater in diameter than the "Lady Isabella".

He died at the age of 76 on 23rd July, 1891, and is buried in Lonan Churchyard, on the Island.

CONTROVERSY

We will now move forward in time to the 1930s. The Great Laxey Mining Company had finally failed due to a lack of investment and the resulting inefficiency at a time when low prices were being seen on the metal markets. A gallant attempt to save the mine had been made by a local business man, Robert Williamson, but he too failed and the mines finally closed. The "Lady Isabella" stood idle and by some fluke escaped the scrapmen who by now had descended onto the site and were cutting up the mine machinery. In 1937 a local builder, Mr. E. C. Kneale, decided to take over the responsibility for the "Lady Isabella" and took out a 15 year lease from the Williamson family, eventually purchasing the wheel outright.

It was at this time when public interest in the wheel was beginning to grow, that the controversy about who actually built it really began. Through the Manx press and the "Wigan Observer" a series of letters appeared and arguments took place between Mr. Kneale, Mr. T. Livingstone Lace, J.P. of Wigan and Mr. John W. Casement, grandson of Robert Casement, of Douglas.

Mr. Lace wrote in September, 1938: "The late Mr. Samuel Melling, J.P. in conversation with me, said that of his own personal knowledge the Wheel was made in Wigan. It has been claimed that the wheel was made in the Isle of Man. To get at the facts, I have visited the foundry in the Isle of Man where it is claimed the Wheel was made. There I had a long talk with the manager, who said that the Wheel was not made in the Isle of Man. They could not in fact make the Wheel at the time of its erection in the Island, and they could not make it today. The centre casting for the wheel weighs 15 tons and the Island is not equipped for castings of this weight. Mr. Melling said that the Haigh Foundry Company, in Wigan, were turning out castings at this time weighing 30 tons. Mr. Melling also told me that he knew the man personally responsible who went to the Island to superintend the erection. He was Tom Sharrock, a Haigh Foundry man. In confirmation of what Melling said, a woodworker named Dick Rowe told the writer that he had worked on the Wheel in Haigh Foundry".

Mr Samuel Melling was a governing director of the Ince Forge Company Limited and the Worsley Mesnes Iron Company Limited and Mr Lace at this time was a director of English Tools Limited.

Mr Lace continued in October, 1938: "Since writing my previous letter I have been introduced to Joseph Whittaker, 42 Duke Street, Wigan, aged 83, born in Wigan in 1856, indentured apprentice at Haigh Foundry for seven years and afterwards working there for four years as a fitter. From the time he commenced to work, the fact that the Laxey Wheel was built at Haigh Foundry was well established and he is quite certain that the Wheel was made and finished at the Haigh Foundry. As a matter of fact he knew some of the men personally who helped to build the wheel, including Mr Sharrock who went to Laxey to superintend its erection and who lived within 500 yards of the house where Mr Whittaker now resides. Further since writing my first letter, I have spoken to Robert Chamberlain, 30 Duke Street, Wigan, aged 77, who was an iron moulder at Haigh Foundry serving part

of his apprenticeship and in his own words 'will bet anybody a sovereign that the Wheel was made at Haigh Foundry'. He described in detail how the wheel was made: "The boss cast in two parts, the two faces planed, the two cylinders bolted together and the centre hole turned true like an engine cylinder. In any case, wherever the Wheel was made it must have been turned out as a complete job" which statement agreed with what Mr S Melling told the writer that "it was impossible for the Wheel to have been part made in Wigan and part in the Isle of Man."

"The shaft for the Wheel axle was forged at Brock Mill, part of the Haigh Foundry about half-a-mile further up the River Douglas (in Wigan, not the Isle of Man): the big hammer man's name was "Brew Boyd". I have also spoken to Tom Sharrock, the grandson of Mr Sharrock, who superintended the erection of the Laxey Wheel. He, of course, does not speak from personal knowledge, but it is a family tradition handed down to him from his earliest years and he believes the story without any mental reservations. The story was burnt into his recollections because his grandfather was killed in an accident at Haigh Foundry.

"Wigan has never claimed that the Haigh Foundry invented the Wheel, but the man who invented it, or saw the possibility of raising water out of the Laxey Mines by means of a waterwheel, could not make a wheel of these dimensions on the Isle of Man, nor could anyone else. If Mr Casement made the plans, then Haigh Foundry would work to his drawings. An iron plate marked "Mersey Iron Works" is no proof that the Wheel was not made in Wigan. The Mersey Iron Works may have obtained the order and then placed it in Wigan with the Haigh Foundry and Brock Mill; and to make waterwheels 72 1/2 feet in diameter and erect them on the ground may have made it impossible to make them in Liverpool, for example I personally have ordered 2000 miners' picks at one time and every pick was marked Lacey and Co, Wigan, but they were made in Sheffield".

"I venture to think that herein is sufficient and authentic and indisputable proof that "Laxey Wheel" was cast, forged, built and completed, at the Haigh Foundry, Wigan, and the erection superintended by a representative of the Haigh Foundry, i.e Mr Sharrock".

Mr Lacey stated that the existence of Mr Sharrock was doubted on the Island, but his son was alive at the time and they had walked along the road to Haigh Foundry over which the Wheel was transported to the Island. Mr Sharrock had no doubt that the Wheel was made in Wigan.

Mr Lacey continued: "I have twice visited Mr James Whittaker, aged 83 years, at his home, 4 Duke Street, Wigan. He did not help to build the Wheel, but was apprenticed at Haigh Foundry and for 10 years worked among the men who did build it and is quite certain the Wheel was made in Wigan. He knew Mr Sharrock, the erector, very well and for years lived near him in Wigan. Mr Whittaker was a fitter".

"A pattern maker named Dick Rowe told the writer 40 years ago that he had worked on the Laxey Wheel at Haigh Foundry".

"Mr William Lowe, Haigh Brow Cottages, Basin Lane, Wigan, told me only a few days ago that the Laxey Wheel was made at the Haigh Foundry and that his father, Thomas Lowe, had worked on the Wheel. Thomas Lowe was a boilermaker. Mr William Lowe knew Dick Rowe intimately and also his son who was apprenticed to Councillor Richard Atherton, a farrier and smith, Caroline Street, Wigan".

"Mr Peter Holland, 438 Gidlow Lane, Wigan, told me a few days ago that his father was an iron moulder and had worked on the Laxey Wheel at Haigh Foundry".

"On this Laxey Wheel question, a lady member of a well-known Wigan family saw the writer twice, she also called at the "Wigan Observer" office, with a photograph of her uncle who she says helped to build the Wheel at Haigh Foundry and also went to the Island to erect it".

"Mr William Dickinson, 277 Wallgate, Wigan, has given me the following information. His father worked at Haigh Foundry and actually assisted in the construction of the Wheel. The firm made a pair of 36" cylinder engines for Grass Valley, Nevada. Mr Dickinson's father (Mr Elijah Dickinson) was selected out of thirty applicants".

The arguments, claims and counterclaims went on and a very interesting article appeared in the "Isle of Man Weekly Times" of 19th April, 1952, from Mr John W. Casement.

He wrote: "The Lady Isabella was not built at Wigan. It was designed by my grandfather and built by him and the men under him at Baljean Farm, Laxey, where they used a big barn as their workshop". Mr Casement also added that he had the original plan of the waterwheel in his possession - other plans of his grandfather's constructions were destroyed when Mr Casement was at sea.

"My father, John, son of the designer, served the first two years of his apprenticeship as an engineer at the Laxey Mines at the time the wheel was being constructed and he used to ride from Laxey to Douglas on a pony with patterns round his neck for Gelling's Foundry".

Mr Casement also suggested that Messrs Lacey and Melling were confused with another waterwheel, but smaller, bound for the Island. Mr Lacey took up the argument and wrote to the Isle of Man Examiner.

"I am quite aware that there was another wheel and take this opportunity to point out that this waterwheel was also made at the Haigh Foundry, consequently this does not in any way invalidate the assertion that the "Big Wheel" was made at Haigh Foundry. Further, the writer is in a position to give interesting and valuable evidence as to the authenticity of all statements regarding both wheels".

Mr Kneale's letters were of a similar line to Mr Casement's letters and other correspondents variously suggested that the "Lady Isabella" was cast at the Rhyd y Mwyn Foundry in Flintshire and the Leyland Mill Foundry in Wigan amongst others. One Manx Correspondent wrote that the "actual foremen on the actual building and erection were fitter and rigger - Thomas McEvoy, joiner - Robert Henry, mason - William Skillicorn, all of whom were born and died in Laxey. "The "Wigan Observer" then took up the argument with an article "Further proof that the Laxey Wheel was made in Wigan".

"Mr E Bradley of 25 Thomas Street, writes as follows to the Editor: I cannot understand there being any doubt about the Laxey Wheel having been made in Wigan. I remember it being brought down from the Haigh Foundry early one morning on the way to the Island. My father was then licensee of the old Dog-i'-th'-Thatch, Wigan. A lot of the men who worked on the wheel used to frequent the house. I remember one of them, Charlie Taylor, falling from the bedroom window in Church Street, reaching to see it pass. He was very badly hurt. It was, I think, the year before Edward, the Prince of Wales, was married. It went on a very large road engine to Liverpool. The streets were thronged with people who had come to see this big engine".

"Mrs Eleanor Prestt of 42 Avondale Road, Wigan, says: My father, the late Mr James Ellis, came from Hawarden in November, 1867, at the age of 23 and commenced to work with the Haigh Foundry Company. One rather amusing incident told to him was that when the Great Wheel was assembled together in the fitting shop it was too tall to come through the doorway and had to be partly taken to pieces and re-assembled in the foundry yard. My father used to tell me how many horses it took to draw the huge wheel up Leyland Mill Lane to the main road. In those days, of course, there were no motor lorries and horse power meant horse flesh".

What conclusions can be drawn from these claims and arguments when they are compared with the information already obtained from the Mine Company's Books and the local press, from the time of construction?

The report from the "Manx Sun" of the opening ceremony of the "Lady Isabella" tells us that the axle came from the Mersey Iron Works and the rim from the Gelling's Foundry of Douglas. To this we may add also that the hub was made by G. Forrester and Company of the Vauxhall Foundry, Liverpool. A plate showing this was discovered on the hub whilst the wheel was under the ownership of Mr Kneale. It has now, unfortunately, been obliterated. Each section of the rim has the legend "Laxey Mines" cast into it, and, apart from this, nothing else giving any clue to origin has been found on the wheel.

Firstly, let us consider the claims put forward by Mr Lacey, which have a number of flaws which tend to spoil his arguments. At no time has Gelling's Foundry ever claimed to have made the Laxey Wheel or cast the axle or hub, because, as Mr Lacey rightly says, they couldn't. All references to Gelling's Foundry concern the rim and the smaller castings which they certainly could have cast. From early times, Gelling's had supplied the Laxey Mines with castings, the largest payment being #220 16s 2d on 1st October, 1847. All larger payments, possibly suggesting larger castings, went to mainland foundries.

The description from Mr Chamberlain describing how the boss was made does not appear to agree with any part of the "Lady Isabella". His statement that "it was impossible for the wheel to have been made part in Wigan and part on the Isle of Man" is also incorrect - parts of the wheel were cast on both the mainland and the Island.

Mrs Prestt's letter is also of interest. Her letter claims that the wheel was assembled complete in the foundry (as did Mr Lacey before her) and transported in this form to Liverpool for shipping. This latter claim is quite ridiculous, as well as being totally incorrect. The difficulties in transporting a complete 72 1/2 feet diameter waterwheel by road to Liverpool and then by sea to the

Island, to be further moved to the construction site and installed in the wheel case makes such a journey impossible. It would also seem extremely unlikely that the Foundry would forget to measure the size of their entrance door.

This claim we know to be incorrect as the various parts of the Wheel were shipped to the Island separately as construction progressed and as reported in the local press.

There is also disagreement over whether the wheel was transported to Liverpool complete or partly dismantled, by horse or by steam engine. The date Mr Bradley gives us is also suspect - the year he gives us is about 1862. The "Lady Isabella" was well at work by the date.

As suggested by Mr Casement, it would seem likely that Messrs Lace and Melling might be confused with another waterwheel bound for the Island. This would be smaller than the "Lady Isabella" but of a large enough size to make an impression on the minds of those who worked on it. However, Mr Lace answered that he knew of this wheel and that it also was made in Wigan.

Three waterwheels are suggested as candidates for possible confusion. The first is the 50 feet diameter waterwheel opened in 1865 at the Snaefell Mines, near Laxey; the second a 55 feet diameter waterwheel opened in 1865 at the East Laxey Mines and named the "Ellan Vannin" and the third a 60 feet diameter waterwheel opened in 1867 at the North Laxey Mines and named the "Florence".

Research has shown that the waterwheels at Snaefell and the East Laxey Mines were both built by Messrs L and G Howell of the Hawarden Iron Works, Flintshire. Representatives of Howells supervised construction on the Island in each case. It would be a strange coincidence if L and G Howell had sublet their work to the Haigh Foundries, as well as the Mersey Iron Works, as would have to be the case if these waterwheels were causing confusion.

The third waterwheel, the "Florence", is a more likely candidate - it is believed that this was an all metal waterwheel. No mention of its makers has been found and so perhaps this waterwheel was made in Wigan. But again to transport a wheel of this size to the Island would involve a journey fraught with as many perils as bringing the "Lady Isabella" to the Island in one piece. No other research has yet found any mention of the Haigh Foundry in connection with any Manx waterwheel.

Referring again to the "Laxey Mines Charge Book", the Mersey Steel and Iron Works are mentioned throughout. The first reference to this Company is in the Minute Book in October, 1843 - the first reference to Gelling's Foundry dates from November, 1845. Castings were also made by two other foundries for the Laxey Mining Company: E B Johnson and D Cook and Company. The former foundry received only smaller payments between February, 1846, and December, 1851, whilst the latter foundry appears to have only been dealt with twice. On 2nd December, 1853, Cooks received the sum of £733 2s 4d and on 27th April, 1855, the sum of £179 10s 1d, both payments being for consignments of castings. It would appear, however, from the dates given, that neither of these two foundries were involved in the construction of the "Lady Isabella". It is very unfortunate that the "Charge Book" failed to give the addresses of these two foundries. Nowhere in the Book is there any mention of Wigan, the Haigh Foundry or Brock Mill. But neither is there any mention of the Vauxhall Foundry in the book - was this part of the Mersey Iron Works? Gellings have not retained any records relating to the period in question. Expenses were constantly paid to Rowe and occasionally to Casement for costs involved in travelling to Liverpool with castings. Apart from trips to London and Manchester by Rowe during the period when orders for castings were being prepared, it was only Liverpool that was visited. Again there was no mention of Wigan. No payments were made to any Foundry in either London or Manchester:

Messrs Skillicorn and Henry are both listed in the 1861 census of the Parish of Lonan and Village of Laxey. Wm. Skillicorn was a stone mason living at Cronk-e-Chule farm near the Wheel and Mine, and Robert Henry, a joiner, who lived near the "Big Wheel", perhaps in the cottage on Wheel Hill which is now known as Henry's Cottage. Both men were employed by the Mining Company.

CONCLUSION

After having examined all the evidence available locally, it still cannot be said with any certainty or confidence precisely who did build the "Lady Isabella", but the evidence points to the wheel being assembled on site from parts made in various places. The axle was supplied by the Mersey Steel and Iron Works, and the hub was made by the Vauxhall Foundry, Liverpool. Since there is no reference in the Mining Company records to the Vauxhall Foundry, the hub may have been supplied to the Mersey Steel and Iron Works under a sub-contract. Similarly, the axle, and possibly other parts, may have been sub-let either to the Vauxhall Foundry, or to the Haigh Foundry at Wigan. The

castings for the rim were made on the Island by Gellings of Douglas, whilst the timber parts were made locally.

There is no direct documentary evidence of the Wheel being built in Wigan, the newspaper reports being based on hearsay evidence and oral tradition. Equally there is no firm evidence to dismiss the Wigan claim completely. Perhaps in the future material will come to light which will answer the question in full. In the meantime, no doubt, the debate will continue and the question 'Who built the Laxey Wheel?' will still be heard.

Selected Payments for the Laxey Wheel

- A - Payments made to Gellings Foundry, Douglas, I O M 1845-1855
Total of payments: £ 2807 4s 9d
Largest single payment £ 220 16s 2d on 1st October, 1847
- B - Payments made to Nersey Steel and Iron Company, 1843-1855
Total of payments: £ 1793 2s 8d
Above figure includes following payments for castings:
4th October, 1850 £ 330 0s 0d
26th November, 1850 £ 1111 3s 0d (Largest single payment)
- C - Payments made to Messrs Johnsons (no address given) for castings:
Total of payments: £ 175 14s 10d
Largest single payment: £ 47 2s 7d on 20th February, 1846
- D - Payments to D Cook and Company (no address given) for castings:
Total of payments £ 908 1s 5d
Made up as:
2nd December, 1853 £ 733 2s 4d
27th April, 1855 £ 174 19s 1d
- E - Total of payments to various companies for supply of steel:
Total of payments: £ 2126 8s 3d
- F- Payments for freight of castings etc. 1845-1855:
8th March, 1851 Owner of "Jane and Agnes" (machinery) £56 2s 8d
6th August, 1853 Owner of "Jane and Agnes" (castings) £ ? ? ?
9th August, 1853 Owner of "Rebecca" (castings) £ ? ? ?
29th Dec., 1853 Owner of "Jane and Agnes" (castings) £33 0s 0d
- G - Payment to Alexander Spittal for timber April 1852 - April 1855:
Total of payments: £ 4459 13s 9d
Highest single payment: £ 394 18s 11d on 5th January, 1855
- H - Total of payments made to surface labourers May 1853 - Dec 1854:
Total of payments: £ 1480 1s 4d

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