

The Author, Christopher Bergen

Christopher Bergen the son of a blacksmith and horseshoer, was born at Whittingham, near Alnwick on 18th July 1884. His grandfather, Captain John Stanton Bergen, was one of the six Captain Bergen's, father and five sons of Blyth, who in the beginning and middle of the last century made maritime history and with other pioneers established Blyth as a port.

Chris Bergen attended school at Whittingham and Seaton Burn. After leaving school he served his apprenticeship as a coachbuilder and wheelwright with the firm of Rickards, Newcastle upon Tyne and then went to work for a motor body building company in Coventry. On returning north he joined his father in the coach-building and blacksmith business at Bedlington Station. This he carried on after his father's death until 1930 when he decided to try and become a teacher of handicrafts for which he soon qualified, and took up the appointment at the practical instruction centre at Bedlington Station School. He proved a capable and enthusiastic instructor and remained there until his death on 30th March 1941. In his later years he did not enjoy robust health partly due to his service in the Royal Artillery during the 1914-18 War.

Not only was he a skilled craftsman but also he was an artist and a man of natural intellectual gifts. Among the subjects he studied, and in some of which he did considerable research, were astronomy, forestry, local history and the history of the craft guilds. He possessed a gentle, unassuming nature but was always ready to help anyone who asked him to do something which he was particularly qualified to carry out and many examples of his craftsmanship are to be found in Bedlington.

In 1736 a member of Merchant Adventurers and a Freeman of Newcastle named Tomlinson obtained a lease of the land in Blyth Dene close to Bedlington with permission to erect smelting furnaces, to cut down the woods for fuel, and apparently to dig for iron ore that crops out in the coal measures along the bank of the river. Small excavations which are the result of digging for iron nodules are still visible near Kitty Brewster Farm.

The story of these ironworks is the story of the mighty changes revolutionised the iron trade of this country during the final quarter of the 18th and the first half of the 19th centuries.

The Rev. Thomas Hodgson, the historian, writing soon after the works had started, recalls the past loveliness of the scene. Speaking of the old mill of which the ruined walls and the mill race, were still visible a few years ago (these have lately been obliterated and are now most unsightly) he says:

'The mill is where the steep, rocky and woody-sided banks of Blyth Dene begin to open and slope gently away into the little estuary of the Blyth, but the seclusion and loveliness of the spot have long since been despoiled of their charms and the noise and smoke of trade usurped their place.'

The departed loveliness of two centuries ago had almost returned during the past few years, but the Philistines are upon it again insisting that ugliness shall prevail. 'These first ironworks were situated higher up the river than the site with which we are familiar. There are good reasons for supposing that the forge, at least was on the south side, on that level piece of ground below Gardener's Mill, and also that the furnace, the splitting mills and the nailers shops would be on the north side. The splitting mills were for splitting iron bar into strips for making nails. This, of course, was before the process of rolling iron bars had been invented. Nails were all hand made and quite a colony of nailmakers sprang up in Bedlington.

When the splitting nails were advertised in 1750 and again in 1757, they were to be sold together with shops for 40 nailers. While I think that this indicates that they probably made the nails at the works at the beginning they ended by supplying other nailers in the town itself. An old song goes:

'Hartley Pans for sailors, Bedlington for nailers.'

According to the Blyth historian, Wallace, the master nailers in the town in 1880 were Ed Charlton, employing 20 hands, Wm and Henry Smith employing 24, Wm Kirkup, employing 12 hands, and, though he does not say so, Philip Gibson, great grand-father of the present family of Gibson's, who have traded down to the year 1930.

Why did Thomlinson invade the quiet beauty of Blyth Dene with his noise and soot? One ought to show good reason for bringing such discord to the rich woodland, drowning the rhythmic clack of the ancient mill. It was because of the old method of smelting and working iron. The trees were used for making charcoal. The water provided the power to drive the water wheel to force a draught into their old-fashioned stone furnaces, to drive the water wheel that worked the heavy helve hammers in the forge, to work the huge bellows during the process of converting pig iron into wrought iron. We are told by Hodgson that the first axle tree for the water wheel was of oak and was brought from Winfield Park in Westmorland to Bedlington by *'nine of Pickersgill's strongest horses.'*

They needed the water, too, for transport. Here in Blyth Dene was a clear way to the open sea, the cheapest, easiest, and swiftest methods of transport then known. Moreover there was iron to be found in the coal measures along the steep river banks.

They needed those steep banks for another purpose. They filled their old-fashioned stone furnaces from the top and building them close into the river bank meant easy access for the carts with the fuel. You will gather the great importance of this when I tell you that it took in those days 10 tons of fuel to do what 19-cwts. will do now.

Let us picture to ourselves how those early Bedlington ironfounders worked their iron. First the ore was calcined or roasted to rid it of such impurities as would cause it to fuse on the side of the furnace: then it was tipped into the furnace between layers of limestone and charcoal; the furnace was brought to the required heat by a blast of air being forced into it by huge bellows worked by the water wheel. The ore melted and descended clear and pure into the bottom of the furnace, the lime helping to form the slag which floated on top of the liquid ore. The pure iron was tapped and run into moulds roughly 3ft. by 3in. square.

This was pig iron, hard brittle stuff used for all kinds of moulded work, but totally unsuitable to be wrought on the anvil.

The pig iron was then taken to the forge reheated in a charcoal fire and pounded under heavy helve hammers, while a continuous blast of air was poured on it from the bellows. The oxygen in the air mixed with the carbon in the iron and both passed off together leaving the iron ductile and tough. These were called billets and could be forged into short iron bars to be slit up for the nailers, or wrought up into finished forgings. These, then, would be the methods, adopted by Thomlinson and later by his successors, Messrs. Mailings & Co. of Sunderland.

At the works were advertised for sale in 1750, and again in 1757, I am assuming that Mailings occupied them between those dates. They were not successful with them and appeared to have abandoned smelting altogether.

The iron trade was in a very bad state at this time. Enormous quantities of charcoal were absolutely indispensable to the carrying on of the trade, but owing to the depletion of the woods and forests, there were in 1740 only 59 furnaces in all England and Wales. In spite of the fact that this country was very rich in iron ore, we were importing four fifths of our iron from Sweden alone, and in addition to this a certain quantity from Spain, Flanders and America.

The Sussex weald had been the centre of what iron trade we had, but at this period, 1740 to 1780, the number of furnace had dwindled from 10 to only two and the last of them ceased to operate in 1825.

Perhaps Bedlington Furnace would lie derelict at more than one stage in its history, but that it did not share the fate of those ancient Sussex foundries was due entirely to the proximity of coal.

It was the discovery of Abraham Darby, a Shropshire iron master, that coke could be substituted for charcoal that began the revolution of the iron trade.

That was early in 1730, but, as charcoal was still needed to make wrought iron, the effect was that the ironworkers could not use up the great quantities of pig iron now being made.

The invention of the reverberatory furnace, or puddling furnace, though slow in being perfected, 1760-1764, made the revolution complete. Furnaces were now built near coal beds instead of woods, and iron was becoming a great national industry.

I have said that in 1740 there were 59 furnaces. In 1788 there were 77 and of those 24 still burned charcoal. In 1826 there were 266, none of which burned charcoal.

In 1788 the output was 61,300 tons; in 1828 it was 417,566 tons.

The geographical effect was amazing. For instance, in Wales, where there had been only 11 furnaces, there were now 90.

And so Bedlington Furnace, instead of fading out came into more vigorous life because of the coal that was found in the very cliff from which they had chosen to dump their fuel. These great changes as well as the introduction of the new process of rolling iron bars instead of the new process of rolling iron bars instead of forging them would occur during the control of the next tenants, Wm. Hawkes and his brother in law, Thos. Longridge, both of Gateshead.

Hawkes of Gateshead, were famous ironmasters and the Works were generally developed and improved under this firm. They were no longer content to make spades and shovels and supply the nailers with iron slits. They made heavy forgings for the busy shipwrights down at Blyth; they exported iron goods to London; they became noted for iron anchors.

The works were advertised in 1782 in these terms:

'To be sold, the splitting mills, warehouses, smith's shops, dwelling house, farm of land with a dwelling house and warehouse situate at Watson's Quay contiguous to the Blyth river, all of which 53 will be unexpired on May Day next. These works are capable of executing 500 tons of rod iron and iron hoops in one year, and are well situated as to coal and the receipt and shipping of iron, being only one mile from the

navigable port of Blyth, to which port iron may be brought from London on the most reasonable terms.'

From Hawkes and Longridge the concern passed to Biddulph and Gordon, of London. It is difficult to decide when their ownership began or ended. Wallace says that they held them for 50 years. In that case they must have acquired them at the sale just mentioned, but in the 'New County History.' Mr Forster, quoting 'The Industrial Resources of the Tyne, Tees and Wear,' says they acquired them in 1809. This, of course, makes Wallace's statement impossible. They certainly did hold them in 1829. The clock house appears to have been built by them, a stone over the door being carved with the date 1829, the initials of 'G & B' and a Latin inscription 'VIVITUR IGNE ET AQUA ET FERRO DEO FAVENTE,' of which a rough rendering would be: '*We live by fire and water and iron and God's favour*'.

It is just as certain that if Biddulph & Gordon were the owners, their manager was Michael Longridge, a son of the previous Thos. Longridge's cousin. Another relative of this Thos. Longridge to come in Bedlington at this time was his brother in law, John Gooch.

Sir Daniel Gooch, in his diary, says that his father, John Gooch, came to Bedlington because his cousins, the Longridges and Hawkes, with a Mr Sorby of Linden had aquired the ironworks. Sir Daniel was born at Bedlington in 1816.

Whosoever the owners were, Michael Longridge's power seems to have been paramount and we can safely assume that the fine solid buildings, with an architectural beauty that one does not usually associate with an engineering factory, were erected under his supervision. His coat of arms was carved on one of the cottages next to the Clockhouse.

The development of the port of Blyth was an important factor in the history of the works. Keels plied regularly up to the ironworks from the port and many forgoings would find their way to the shipbuilding yards where famous brigs were being built. Ships drawing four feet of water could get right up at full tide and a boat plied regularly to the well near Kitty Brewster Farm to replenish the ships with water.

George Stephenson was a regular visitor in the works at this period. He used to call upon John Gooch at what is now known as 'the King's Arms', or, more familiarly, 'The Grapes'. Sir Daniel tells us how as a boy, George Stephenson used to take him on his knee and tell him about the wonderful new railways, or 'waggonways' as he would call them.

Perhaps the most interesting chapter in the whole history of the ironworks is that which tells of the part they played in the development of the iron road.

In 1818 the owner or owners of Willowbridge Pit, of the 'Glebe' Pit, now known as Barrington, offered Michael Longridge coal on very favourable terms if he would be at the expense of putting down a waggonway from the pit to the ironworks.

He agreed to do so and began to consider the advisability of putting down rolled iron rails instead of the usual cast iron ones.

There had sprung up quite a trade in these cast iron rails. They were very short, only three feet long and were fastened down at each joint with a chair fixed to a stone sleeper. They were 'fish bellied', that is, they were deeper at the middle than at the ends, but, they had a nasty habit of jumping clean out of their best features were that

they presented a good broad surface to the wheel and were comparatively cheap in price.

The malleable iron rail to give the same surface was going to be very heavy and correspondingly expensive. Narrow malleable iron rails had been tried at Walbottle and elsewhere and had been only a partial success, the fault being that they wore grooves in the tyres of the wheels.

Mr. Birkenshaw, chief agent to the iron company, suggested that the rails might be rolled wedged shaped in section, so that they might be given a good depth to stiffen them, present a good broad surface to the wheel and yet be light in weight and price. Accordingly special rolls were designed and the new type of rail rolled. The line was laid and was a great success.

About this time, 1820, Longridge advised Stephenson to become a partner with Thomas Mason in the ownership of Willowbridge Pit and Stephenson did so.

The following year, Stephenson, who had been appointed engineer to the projected Stockton and Darlington Railway, was greatly exercised as to what type of rail to employ. It was perhaps, the most difficult question that the whole scheme presented. An unsatisfactory locomotive might be replaced easily enough, but to lay down miles and miles of faulty line would be a very serious matter indeed. He himself was interested with a Mr. Losh in the manufacture of cast iron rails, but he decided on the Birkenshaw patent malleable rail. Mr. Losh was greatly angered by this, as were other shareholders interested in the cast iron business.

Losh wrote to Ed. Pease in 1821 and said that Stephenson had recommended the Bedlington rail because Michael Longridge was his best customer for his Willowbridge Coal and also because he dealt extensively with Stephenson for chairs and metal work:

'In the long intercourse I have had with the world,' he wrote 'I have found most people to lean to their own interests and I do not think George Stephenson an exception.'

Michael Longridge refers to these insinuations in a letter he wrote to Ed. Pease on November 14th 1821. After saying he will not allow another manufacturer to roll the new type of rail, he comments on Losh's letter:

'I am sorry to learn from my honest friend Stephenson, that another person has been attempting to injure him in your estimation. I trust you have had sufficient knowledge of him to form a just opinion. Without troubling you with my sentiments as to the conduct of the other party, I will only say that I have no concern in any foundry whatever, consequently, Stephenson can have no share in the malleable iron rail belonging to me, nor have I offered him any commission or premium on the amount of rails sold.'

Edward Pease and his friends had already formed an opinion of Stephenson's character which Mr. Losh was little likely to shake. It was agreed that all the main lines should be laid with Bedlington rails and the sidings with cast iron.

Stephenson was not alone in his opinion of the merits of the Bedlington rail. William James the 'father' of the Liverpool and Manchester Railway, waxed almost lyrical in its praise:

'Light has a length shone from the north,' he wrote in 1821, 'and I pronounce it as my decided opinion that the malleable iron railroad at Bedlington is by far the best I have ever seen, both in respect of its material and its form.'

Writing in September of the same year to a friend in Durham, Robert Stephenson said 'Perhaps the best example of this kind of railway is to be found at Bedlington, where Mr. Longridge has laid about three miles of it.'

The Official History of the North Eastern Railway says:
'The importance of this (the Barrington) waggonway as a actor in the evolution of the iron road can scarcely be over estimated'.

At the bottom of Mr. Graham's garden at Bedlington Station near where Blyth bus stops, can be seen two hedges. Might I suggest that some form of memorial be placed there with an inscription to this effect: Between these hedges was laid down in 1820 the railway that solved the difficulties of the railway pioneers and became the pattern for the chief railways of Britain.

Sir Daniel Gooch records with considerable pride how, when taking over Stratford-on-Avon railway for the Great Western, he found that the rails had been rolled at Bedlington in 1830. He had a sample sent to his home at Clewer Park with instruction that they had to be preserved as a relic of the early railway history.

The first rails were rolled 9ft long and appear to have been parallel. It was upon the advice of Mr. John Buddle that they were deepened between the chairs again and so became like three cast iron rails joined together. Let us walk into the factory and see them rolled. A letter from Ohio, USA written by one who served his apprenticeship at Bedlington, describes the scene. He tells us that the rails had to be marked with white paint at the proper place to enter the material if they missed they rolled a 6ft instead of a 9ft one. The big spur wheel had wooden teeth, and it is a common thing to see half of them tripped off owing to the iron being put in too cold. This writer does not appear to know that in 1825 they were rolling these fish-bellied rails 15ft long. He goes on to say that when the parallel rails were introduced with the double face the old fish-bellied ones were sent to the furnace to be worked up. 'I went there to work in 1845 and often saw the standards and the rolls for splitting the nail rods and wished I could have seen them working.'

It was somewhere about this time, 1820, that the ironworks acquired or established the iron pit at Nedderton. They built two new blast furnaces on the north side of the river and they used a mixture of this Nedderton ore and an ironstone brought to the river Blyth from the Yorkshire coast known as 'Whitney Stone'. Twenty years later, Mr. Longridge leased the pit we have called Willowbridge or the 'Glebe' from Lord Barrington, from whom it afterwards seems to have taken its name.

During these past twenty years Bedlington Iron Works had been quietly dropping their nailsplitting and concentrating more and more on locomotive building and railway material. A Mr. Rennie, another American correspondent gives an interesting glimpse of his prentice days in the works in 1848:

'I went to work at the forge that worked with the water wheel and made slabs for boiler plates, and on one occasion being short of scrap, we used up all the old chain makers anvils.'

We have all heard of Stephenson's famous 'Rocket' but what do we know of its runner up at the famous trial at Rainhill? I mean Timothy Hackworth's 'Sans Pareil'. It was a wonderful engine and was going strong when all its erstwhile rivals were either scrapped or had been remade over and over again. The boiler, at least, was made at Bedlington Ironworks.

They still retained a considerable amount of Admiralty work in cable chain and anchors. They were famous for their anchors and, at the great Exhibition of 1851, exhibited an anchor weighing 5 tons and by its side one weighing 2 cwts. Two cruisers built at Jarrow in 1888, the 'Orlando' and the 'Undaunted', were fitted with Bedlington anchors made as far back as 1846 and 1852 respectively. These anchors weighed just over 3 ½ tons.

Biddulph and Gordon had taken a lease on that part of the dene between the bridge and the Rose and Crown Inn in 1829 and in 1838. Longridge built an up-to-date locomotive factory on the site.

The engine builders styled themselves R. B. Longridge & Co. and were under the direction of Robert Bewick Longridge, Michael's fourth son. They had built a few engines previous to this, but they now built them in a big way.

About 150 engines from Bedlington have been traced in the books of old British Railways, 10 to Belgium, 4 to Holland, 8 to Germany, 1 to France and 1 to Austria, in most cases the first locos these countries possessed. The first loco these countries possessed. The first loco to leave King's Cross when it was opened in 1853 was built by R. B. Longridge & Co. there were many more than these, the records between 1841-5 being completely lost.

I have been fortunate to procure a photograph of what must surely be the last of these in operation built in 1852. It was still running at Holy Head Harbour in 1905 and was probably the last broad gauge engine in use.

Towards the middle of the century the firm was at its fullest capacity, employing nearly 2000 hands besides a number of premium apprentices paying for the privilege, sons of well to do families from all over Britain and abroad, Germany, France and Holland sending young men to be trained at Bedlington.

The Bedlington Ironworks were equipped with blast furnaces, rolling mills, engineering, boiler and locomotive shops, gas making plants, an iron pit, a small brewery for their workmen, a workmen's institute, with a fine library of nearly 400 books, and even an ice making plant.

Bedlington Ironworks had an international reputation for the reliability of their engines and the quality of their rolled iron. In fact, Rennie says, 'It was 'nip and tuck' with the Lowmoor Iron Co. for the premier place in Britain for 'Crown' sheets and Tyre bars.'

The first wire-bound gun was invented and made at Bedlington. It was made by Michael Longridge's son, James Atkinson Longridge. The present Michael Longridge, in a letter to 'The Engineer' as recently as 1921, states that he was present as a child at experiments made with gun in the Low House. He remembers it in its lathe in an upper room of the works office with the wires hanging out of the windows with weights attached to keep them at the calculated tension.

I remember,' he says, 'the gun being fired across the river. The breech was jammed against a wall. After firing it was sent to Ordnance who, although cautioned to stick the breech against a wall, persisted in securing the gun to a large log of wood by the flange of the muzzle. The consequence of course, was that, on firing, the recoil tore away the flange and the wire wound gun was damaged for many years until the Russian Government, more enterprising than our own, constructed one successfully.

And now, for something of the social condition of the workers. As far back as 1810 they had established a relief fund by which they bound themselves to pay 3d a week. There were 15 members at first, in 1824 they had 112 workers. The benefits were 8/- per week for six months sickness and 3/6 per week as long as they were unable to work; £5 on death of a member and funeral benefits of £2 per member, £3 for wife, £2 for widow and 30/- for child. Their annual meeting was held in the Clock House and was made the occasion of dinner given by the management.

In 1839 they actually launched a monthly journal entitled 'The Blyth & Bedlington Literary Supplement' and though I am strongly tempted to quote much from the one I have seen, I will content myself with these extracts from an editorial note: 'Few large establishments like this one can boast of a better regulated set of workmen. No means have been left unemployed to make them comfortable.'

It refers to their valuable little library and recent additions to it, and finishes in this whimsical manner: 'We can only regret that so splendid a collection of musical instruments should be neglected and left in the band room to spoil. We perceive that the music master has the pleasure of attending every fourteen days merely to receive his money and whistle to the wind.' This sounds as though the men were fairly comfortable down in Blyth Dene considering that all around them there was grave unrest amongst the workers. The Chartist movement was at its height and the 'hungry forties' were already laying their clammy fingers over England.

A great rendezvous for the local Chartists was the Windmill Inn Cowpen, and so ominous did the Government consider Cowpen that they sent General Colin Campbell (afterwards of Crimean and Indian Mutiny fame) with a regiment of Highlanders and billeted them there.

To say that Chartism did not effect the ironworks would be untrue. An entry in the absentee book (now in the possession of Mr. J. G. Hudson) on July 8th 1839 refers to the 'Number of men who only wrought one quarter and left at breakfast time yesterday morning on account of the arrest of George Julian Harvey.' Harvey was a noted Chartist leader who was arrested for a seditious speech at Manchester while he was speaking Bedlington Market Cross.

Later entries in this book show that the feeling in the Engine Factory was strong enough to close it for two days at the beginning of a peculiar Chartist demonstration known as the 'Sacred Month' Aug. 12th, 1839. Monday. No work today on account of the commencement of the sacred month-first day's fast. Tuesday, Aug. 13th. Factory not open today-second day's fast.'

Mr Longridge received threatening letters purporting to come from his own workmen and he took occasion to address the whole of the employees on the matter: *'I do not believe there is a word of truth in the letter; he said, and I think so for three reasons. Firstly, because I have done harm to none of you; secondly, because I believe you are convinced that I wish sincerely to promote your welfare; thirdly, because you could not injure me without injuring your families.'*

He posted copies of the letter up in the works and added this footnote: *'Mr Longridge thanks the author of this letter for his friendly warning and advises the workmen who are not satisfied with the treatment to leave the manufactory.'*

The workmen called a meeting and sent Mr. Longridge a dignified reply declaring their innocence of any conspiracy against him and demanding that he should show them the original letter and help them to trace the writer.

In a speech to his employees on June 21st, 1839 he said:

'I claim for myself civil and religious liberty. I reprobate tyranny if it is exercised by a proud aristocracy or a rabble democracy. What I claim for myself I willingly allow to others. I do not stand as an advocate for Tories, Whigs, or Radicals, or Chartists but I am a lover of my country and warmly attached to its constitution, I know that as a nation, we are proverbial for grumbling. For half a century I have listened to those grumblings and have felt disposed to look for a happier country, but I must own that I do not know where to find it this side of the grave. I do not wish to persuade you that there is nothing in the state of England that needs amending. Many amendments might be made which would improve both your position and my own.'

He gives a list of things which might be amended; The Church of England, international finance and the monetary system, the Corn Laws, the system of internal communication and education.

Long before all this Mr. Longridge had made arrangements to deal with any violence caused by or offered to the inhabitants of Bedlington. In a letter written in 1832 he gives these instructions:

'When the alarm is given the men here come to my house; those at Sleekburn to the Pit; those at Bedlington to the officer commanding there. The men with guns or pistols must not fire without order and in this case fire by diversions and according to the officer's orders. Fire low, so as to lame but not to kill. The men with swords and bludgeons to make prisoners of the ringleaders, but not to break rank until ordered. Be cool and steady.'

Michael Longridge appears to have been a man of great business ability. He joined with George and Robert Stephenson and Edward Pease in founding the firm of Robert Stephenson and Co. of Forth Banks, Newcastle who became the foremost locomotive builders of the world. Both George and Robert Stephenson were repeatedly called away for long periods from the works surveying and attending to other matters incidental to the construction of new railroads, bridge, etc. Robert being in America for a long time.

During these periods, Michael Longridge managed both Bedlington and the Forth Banks firms. He may have been a Martinet; he certainly provoked some enmity of an underground character, which was constantly blossoming forth into spiteful anonymous letters both to himself and to his friends.

Referring to one of these letters received by his friend Thos. Richardson, objecting to Mr. Longridge's management of the works at Newcastle, he makes this revealing reply:

'I will state my reasons for being concerned in engine building with George and Robert Stephenson. George has rendered me very considerable service in giving an opinion favourable to the Bedlington rails which his own interests led him to recompense the pecuniary loss he sustained, but I have since done what in me lay to forward his interest and Robert's. It was against my will they commenced as engine builders but after they had begun, considering it beneficial to the Bedlington Ironworks and that George and Robert would benefit from my habits of business in which they were both deficient, I offered to take part with them. Most assuredly I never intended to have the slightest charge of the manufactory further than attending the monthly meeting of the partners. Circumstances have unfortunately placed the responsibility on my shoulders, but I hope that Robert's early return to England will

relieve me. Meanwhile, if you or Mr. Pease can appoint a more suitable person, it will much oblige. Your truly, M. L.'

The softer side of this nature is revealed in the really affectionate letters which passed between Robert Stephenson and himself. They evidence quite a tender regard for the brilliant young engineer. On Nov. 2nd, 1825 he writes asking Robert to become godfather to his youngest child:

'My imagination pictures the time when, seated around my fireplace at Bedlington Ironworks, my own head still more silvered o'er with age than it is now, I shall see you with your goddaughter sitting on your knee listening to the traveller's tale which you promise, for I shall regret if you suppress any real occurrence that befell you. I would rather give some licence to high colouring than to have a bare detail of dates and journeyings. I feel tonight as though I were talking to you and can hardly bring my pen to narrate such common matter of fact subjects as that we continue to be overwhelmed with business at Bedlington Works.'

In Horton Church, just inside the chancel is an imposing memorial to an engineer named Reid. He was at one time work's manager for Robert Longridge. His nephew presented a portrait in oils to the Y. M.C.A. at Bedlington Station.

One of the great sights of the district at the time of the engine works was when a locomotive had been completed. It had to be dragged up to the steep Bebside bank of the river by a great team of horses, hired from all the farmers round about. It was generally taken from the to Brandling junction for dispatching to any great distance.

Severe competition in locomotive building proved that Bedlington had been nursing the very arm that at the last would smite them low. It was easier now to move 200 tons from the north to the Midlands than it was for Bedlington Ironworks to drag their locomotives up on to the high road. It became less important that ironworks should be even near to the coal mines and the advantage of river-bourne freights enjoyed by the Bedlington firm was made to look insignificant. The ironworks near the main railways were able to effect economies in the cost of transport. They were able to bear forges like Bedlington out of the market.

Thanks however to the same fact, they could also beat our foreign competitors' and give country a further supremacy in the world markets.

Mr. J. G. Hudson, to whom I am indebted for so much information regarding the works, preserves a pay note for May 5th, 1855, which shows that the wages were paid fortnightly, the recipient in this case receiving 5/3 per day, with a deduction of 8/- per fortnight for rent. Other items on the note but not deducted in this case are Coals, Doctor and School.

The school stood on a slight eminence still discernable near the path midway through the 'free' wood.

It was in the year 1853 that the Longridge family finally finished with the ironworks. Michael Longridge died five years later in 1853, aged 73. He, was buried on the north side of Bedlington Church. Here also were buried his wife, mother-in-law, six of his descendants and the wife of Robert Bewick Longridge.

Robert Bewick Longridge lived to the ripe age of 93, dying in 1914. The publication of this account of the Ironworks in the press some years ago brought me into correspondence with the gentleman's eldest son, Robert Chas Longridge. We kept

up this correspondence till the time of his death about 2 years ago. He told me how his grandmother and Vicar Cotes used to go around vaccinating the Bedlington people. He remembered his Grandfather's funeral. He was a small boy but never forgot the big black crape with the huge bow that he wore in his cap. He had the impression that the Longridge's left Bedlington under a cloud of suspicion by Mr. Hudson and I assured him that people have revered the name of Longridge.

There was a large sale of material and plant and the concern passed in to the hands of a Mr. Spence. I had the privilege of conducting this gentleman's grandson over the runs a few years ago.

Mr. Spence soon decided to clear out and another sale, which lasted ten days, began on May 21st, 1855. Among the items, some of you will be interested to know, was one which showed that there were still ten barrels and sixty half-barrels of ale left in the brewery. This beer, I ought to have told you, was known as 'Swanky' and was not ordinary beer, but a mild brew not likely to intoxicate.

In 1861 Messrs. Mounsey and Dixon took over the works. This last phase is within living memory and I have talked with many who remember Mr. Mounsey and his unfortunate young wife. She was trapped into the machinery by her shawl, it is said, and met a frightful death. The notice in the press reads:

'Feb 1st, 1862. A terrible fatality at Bedlington Ironworks. Last night a messenger from Bedlington Ironworks arrived at Shields by the Blyth and Tyne Railway and passed on to Sunderland with the appalling intelligence that Mrs Mounsey, wife of one of the proprietors of the works, had been literally torn to pieces by machinery. Mr. and Mrs. Mounsey, with Mr. Dixon and several ladies had gone into the new mills to see the process of sawing iron. Mrs. Mounsey's dress got entangled in the machinery and she was drawn in and frightly mangled.'

Mr Edward Gibson has told me that his father was wont to say the Mr Mounsey came to Bedlington with a pocket full of money and a beautiful wife and that he left broken hearted without either.

Mounsey had money and Dixon had the brains is the way the survivors of the works generally sum them up when I have talked with them. Neither the money nor the brains, however, sufficed to bring the ironworks back to their former prosperity.

The firm was changed from Mounsey & Co. to Bedlington Iron Co. in 1865, but they closed down finally in 1867.

Thus ended 130 years of wonderful and eventful industrial activity.

Notable men connected with the works have been Sir Daniel Gooch, who in 1866 laid the first successful Atlantic Cable, laying in all three cables across the Atlantic. Daniel Gooch became Superintendent of the Great Western Railway at the early age of 21. He became an ardent advocate of the broad gauge railway, that is 7ft across compared with 4ft 9inches narrow.

Gooch and George Stephenson fought a bitter battle with each over the merits of the broad gauge, 'I shall never forget the passion of George Stephenson this day,' he writes, 'he gave me his mind pretty freely for fighting the broad gauge against the narrow in which he said I had been brought up,' They were thinking of Bedlington where Daniel used to sit on George's knee.

John Dixon made railway history too. He laid down the first Chinese Railway, a difficult task as the hostile natives were continually tearing it up again, the Mandarins complaining, with a great deal of truth no doubt, that the noise was disturbing the spirits of their ancestors. Dixon was a capable artist and an expert geologist. He discovered water on the rock of Gibraltar and was thanked by the British Government as they had previous to this to get it from the mainland. He built Hammersmith Bridge.

His most spectacular achievement was to bring Cleopatra's Needle to the Thames Embankment, previous attempts to move it had only shifted it a few feet. This massive stone, the largest quarried stone in Britain is ten times heavier than the largest stone in Stonehenge and is 70 feet long.

Dixon encased the stone in a steel cylinder shaped like a bost with bridge and rudder and towed it as far as the Bay of Biscay where they encountered a severe storm. Efforts to save the 'Cleopatra' as the strange barque was called cost brave men's lives and finally they had to cut it adrift. This news caused alarm in many people's breast in England, especially those of a superstitious nature. Three days later the 'Fitzmaurice' sighted the Cleopatra and towed her into Vigo harbour. Finally it was brought into the Thames and set up on the embankment.

Here are some interesting figures concerning the power required to set those huge stones on end. Fontana setting one up in Rome in 1786, employed 960 men, 40 capstans and 75 horses. Le Bas erecting one in Paris in 1836 used 480 men and 10 capstans. Dixon set the London obelisk up with 18 men and 6 hydraulic jacks.

The Times on October 10th 1878 said that Dixon had '*shown an engineering skill which had eclipsed all former attempts in the same direction.*'

There is no country in which those who have successfully completed so great an enterprise and not received from the Government as a matter of course, some single mark of national appreciation and such a reward if it were conferred would be confirmed by the public.'

Dixon did not get a Knighthood. Durham University conferred the honorary degree of M.A. upon him. He died at Croydon in 1891 in poor circumstances for the Needle was a financial disaster to him.

Another man who can scarcely be passed over was Joshua Miller the old keelman who for so many years was a familiar figure on the River Blyth, making countless journeys between the ironworks and the harbour. He was born at Wickham on 25th October 1761 and lived to the great age of 110 years and 8 months, dying at Morpeth, 24th April 1872. In his 100th year he was still in harness and was gatekeeper when Mounsey and Dixon took over. He began his working life as a Tyne keelman but was pressed for the Navy and fought in our wars against France under Nelson. He served on the 'Pomona' and once picked up a shell that had struck the deck and threw it overboard. In the photograph he is shown with the bust of Napoleon, his erstwhile enemy.

He was regarded by all as one of the institutions of the factory and many stories are told of him. It is related how at the annual dinner at the institute, the men who usually took this opportunity to play pranks, solemnly charged Joshua with making disrespectful remarks about one of the officials. They empanelled a jury and brought in a verdict of guilty. They ordered Jossy to withdraw and apologise or to take a large dose of salts. He elected to take the salts and it was often averred by the men that

this was the cause of his longevity. Owing to a defect in his teeth he contracted a habit of mis-pronouncing his p's and k's and in narrating one of his adventures during the war when his ship was in peril of foundering he exhorted his mates to 'Punch, ye buggers Punch, or ye'll awl shink' So the apprentices and boys used to say 'Heres awd 'Punch or Shink' coming.'

He was a great favourite however and a letter from Brisbane from an old worker in the factory, describes him in these words: *'I remember his figure well gnarled and weather beaten, hard as a steel nut, with the indelible stamp of a son of the sea written on every feature. I have seen this old son of Neptune on a wild winter morning with his legs bare up to the knee wade to his keel lying aground in shallow water covered with ice. In the '50s he lived in Keelman's Row with a relative named Ben Lee. Was it to be wondered that our ships manned with such hard staunch hearts as Jossy's should win such renown.'*

Little now remains of the old factory. We can still see the position of the weirhead which was washed away in November 1886. The last chimney was felled in 1906, and the clock tower removed as late as 1915. At present all that remains of the once fine engine works on the south side of the river is crumbling to complete ruin.

During the Great War the Germans passed over the place in a Zeppelin and reported that though they had not bombed Blyth because of its unimportance, *'Bedlington however, which was bombarded, possesses ironworks'* and, says the report, *'This fight has proved that the great works around the Tyne can at any time be threatened by our ships.'*

No bombs, however, dropped into Blyth Dene and we have the doubtful satisfaction of knowing that the present frightfulness in that naturally lovely Dene is the work of our own people who cannot officially be least, be termed our enemies.