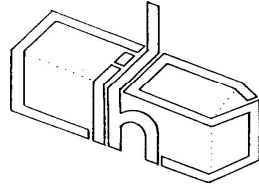


Cumbria Industrial History Society



BULLETIN

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MERRY CHRISTMAS

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EDITORIAL

Another year draws to a close for the Society and despite the sad loss of a number of members it has been a very successful year and I would like to take this opportunity again to thank all the committee members for their hard work on your behalf. Looking ahead to next year the committee has put together yet another exciting programme of conferences and field trips and I do hope these will be supported as well as in previous years. The number of people now attending the day conferences is now starting to cause a problem with venues large enough to seat and feed people, also the announcement by the University of Cumbria to partially close their Ambleside campus is a worry for the future of our spring conference. But I am sure the committee will keep finding suitable venues, any ideas would be most welcome.

I would like to thank everyone who has passed on their comments on the special edition Bulletin we did for Mike. The Society has been left Mike's very large slide collection (25,000+) and we are looking at what can be done with these. (see Page

The recent floods in Cumbria have caused serious damage especially to bridges. If any member could supply us with details of those bridges that have been lost or any other industrial feature that has been damaged we can make a record of it for the future.

I have a number of articles now in hand which will start a seventh volume of the Cumbrian Industrialist. Anyone who has some research they would like published please contact the editor to discuss it. Hopefully we could have volume seven out for Christmas next year.

I would just like to wish you all a Merry Christmas and a New Year happily involved in Industrial archaeology and hope to see most of you at next years events.

Graham Brooks Editor.

CIHS ACTIVITIES IN 2010

Tuesday 9th February 2010 7.30 pm Members Evening Keswick Friends' Meeting House.

This is our traditional annual meeting when members are invited to bring along either slides of an industrial site they have visited or are interested in, films of industrial processes, or artefacts and tools they may have in their possession. All contributions are welcomed on the night.

Saturday 24th April Annual Spring conference. 9.30 am University of Cumbria Ambleside

See enclosed booking form and programme for details but looks to be yet another enthralling conference.

Saturday 8th May 10.30 a.m. Lime Kilns in the Craven Area led by David Johnson

Everyone should meet up in the Community Centre car park in Ingletton but not pay for a ticket until we have sorted out car sharing from there onwards, as some cars can park at the first site. The Community Centre is at SD 695 731, in the centre of the village. Coming from the M6 end, take the first left turn into the village from the A65 and follow that road as far as the railway viaduct - turn right into the car park immediately before the viaduct.

Those cars staying at the CC will have to pay for a day's parking ticket or find a slot on a street (not easy at the weekend). What we will do is look at the Mealbank site first, then pass through one of my excavated sow kiln sites, which is by the roadside, have a picnic lunch somewhere round Ribbleshead, then go on to the Craven Lime Works afterwards, finishing around 4pm.

Thursday 17th June 6.45 p.m. Witherslack Hall Farm buildings (listed Grade II) and machinery led by Mark Brennand, County Archaeologist.

Park near the entrance to Witherslack Hall at SD 436 859
If time permits we can visit the remains of a steam pumping engine and/or a medieval bloomery in the woodland.

Saturday 10th July 10.30 am Harrington Harbour walk led by Philip Ashworth.

Start at the car park on the south side of Harrington Harbour OS ref. NY 987 252.
Packed lunch will be required.

Saturday 14th August 2010 Woodland industry, steam bus and Castle Head House.

A journey on a steam bus, preceded by a visit to Roudsea Wood to view relics of woodland industry, and followed by a visit to Castle Head, John Wilkinson's house.

Meet at Roudsea NNR car park SD 329827 at 10.30

10.30 – 12.30 Woodland industry sites in Roudsea Wood

12.30 – 1.30 Lunch either packed or at pub in Haverthwaite

1.30 – 2.00 Steam Bus ride from Haverthwaite to Castle Head, stopping on route to inspect John Wilkinson's memorial obelisk

2.00 – 4.00 Castle Head House and grounds and refreshments

4.00 – 4.30 Return steam bus journey to Haverthwaite

Cost £13 per person to cover hire of steam bus and refreshments. MAXIMUM NUMBER 32 (Steam Bus Capacity)

Please book early for this trip so that I can confirm details with the steam bus owner and Castle Head staff. The trip will only be financially viable if we get 30 or so members.

To book ring Geoff on 01539 728605. Please send cheques to treasurer.

NON SOCIETY EVENTS.

Friends of Lancaster Maritime Museum are organising a trip to the Anderton Boat Lift on Saturday 17th July 2010. This will also visit the Lion Salt works at Nantwich. Details from Ken Broadhurst 015214 781604.

Swarthmoor Hall History Group have a talk 'The Quaker Lead Company, Two centuries of Industrial Welfare 1692 – 1905. An illustrated talk on lead mining in the N. Pennines by J Ireland on 28th January 2010 at 7pm.

BOOK REVIEWS

KENDAL'S PORT – A MARITIME HISTORY OF THE CROOK OF MILNTHORPE. By Leonard Smith. Lensden Publishing pb 110pp. ISBN 978-0-9551992-6-4 price £6.99.

BARROW STEAM CORN MILL by Greenlane Archaeology and Barrow Dock museum. Cost 31.20

This booklet covers the archaeological investigation of the site in 2007.

ABSTRACTS

MR POPE'S POTS AND THE RAPID SMELTING OF LAKE DISTRICT COPPER AND LEAD ORES – 1579-83. By Richard Smith (speaker at the Spring conference). British Mining vol.88 Memoirs 2009 p 36 – 49.

This paper deals with the early process for smelting copper ores, which involved numerous roastings over a long period and the trials to try and speed this process up.

THE EAST CUMBERLAND COALFIELD by Graham Brooks. British Mining no 88 Memoirs 2009 p124 – 136.

This paper looks at the history and the site remains for the small collieries on the Pennine escarpment between Croglin and Hartside.

PRODUCTION AND ECONOMIC IMPACT: NORTHERN PENNINE (ENGLISH) SILVER IN THE 12TH CENTURY. By Peter Cloughton This article covers the paper given to the 6th International Mining History Congress, Akabira, Japan, September 2003 . It looks for the evidence for lead/silver mining in the North Pennines and discusses possible means of processing the ore at the time. This is relevant to the work being done by Warren Allison and friends in silver gill in the Caldbeck Fells and them being a source of the silver for the Carlisle mint at this time. It is available at <http://people.exeter.ac.uk/pfclaugh/mhinf/clough.doc>

HISTORY OF THE PORT OF BARROW

(This is a copy of the paper given at the October conference.)

It seems to me that the history of the port can be divided into 4 main eras.

- 1st- Covers the use of Piel Harbour
- 2nd -Growth of Barrow and the heyday of the Victorian era.
- 3rd –The slow decline of the Docks in the 1900's up to 1975
- 4th –The resurgence of the port in the 1980's.

What made Piel attractive as a harbour was the naturally occurring deep water and the shelter provided by the 10 mile arc of Walney Island. In a Government report around the time of the Spanish Armada it was said to be the best harbour between Milford Haven and the Scottish border.

There is evidence of Piel being used by the Celts and Romans and thereafter the Vikings. Probably the name Fouldrey came from the Viking word for fodder, the island being a source of food for their cattle.

Piel Island was given to the monks of Furness Abbey with the initial grant of land by Stephen, Count of Boulogne in 1127AD. The monks exerted great influence over the Furness area for the next four centuries and in 1212AD they were granted a licence by King John to import one cargo of wheat, flour and provisions to stave off a famine. 20

years later the Abbey was granted an unlimited licence so Piel Harbour was officially recognised and I assume the Abbot was the first harbour master.

In 1258 it was recorded that the Abbey's own ship came under Royal protection, so perhaps they were the first ship owners in the area. In the early 14th century the monks built Piel Castle as a Motte and Bailey fortified warehouse and it was only in 1536 with the dissolution of the monasteries by Henry VIII that it fell into disrepair.

Piel continued as the main harbour for the area, which was recognised with the provision of a Custom House in 1720 and Walney Lighthouse in 1790. The main trade was exporting the local haematite ore over the years and in the 18th century it was recorded as having 40 vessels belonging to it.

The next significant development came with the arrival of John Abel Smith, a London banker who bought Roa Island in the early 1840's with the view of developing a Harbour Company, which didn't materialise due to local opposition by ship operators. Under a Parliamentary Act of 1843, however, he built the causeway and pier. This was quickly followed by the creation of the Furness Railway Company in 1844, which as it turned out was the most significant event in the development of the Port of Barrow and the Furness area generally. They completed a rail track to Roa Island in 1846 as one of the first stages in a network of rail tracks in the area. A ferry service from Piel to Fleetwood made a faltering start with the Ayrshire Lassie, but it kept going aground and the service was suspended until the following year. The Railway Company found it very difficult to negotiate acceptable terms with John Smith and it was not a happy relationship. By 1848 however, Furness Railway had the steamer 'Helvellyn' on the Fleetwood service and the 'Zephyr' on the Liverpool service sailing out of Piel.

A severe storm in December 1852 damaged Piel Pier and the causeway which John Smith could not afford to repair and Furness railway were pleased to buy him out for £15000. In 1867 the Fleetwood service from Piel moved to Barrow with the creation of the first docks.

In 1867 the Piel Pier was found to be unsafe for steamship traffic and it was rebuilt by 1868 with an 810' main pier that had a high level with a rail track and a lower level for use at low tide. Each level had a steamer berth. There was also a 300' long transverse pier that had 2 steam cranes and a rail track connected to the main line via a turntable, so it was quite a sophisticated structure. Piel Pier continued in use for the Belfast and Isle of Man services run by the Barrow Steam Navigation Company until 1881, when the Ramsden Dock Station was built and the services moved to Barrow. This marked the end of Piel as a commercial undertaking. The pier was finally dismantled in 1894, although Piel Harbour is still used as a safe anchorage, especially for the dredgers that work maintaining the depths of the approach channels to Barrow.

The rich haematite of the Furness area had been mined on a small scale for centuries but it really started to develop during the Industrial Revolution in the 1700's, with the creation of local mining companies such as the Backbarrow Iron Company founded in 1711. They commenced exporting ore from Barrow in 1745. The Newland Company founded in 1747 was exporting ore by 1782 and built the first jetty in the Barrow Channel between Barrow Island and the mainland in 1790. Other jetties followed built by Town and Rawlinson in 1833, Kennedy in 1839 and the famous Henry Schneider in 1842, shortly before the Furness Railway started building their own pier in 1845. Over the following six years the original jetties were dismantled as the Furness Pier was extended. The jetties had

increased the ship loading rate from about 30 – 35 tons to 100 tons per day, which was a very significant improvement. It was around this time that the Furness area really started to develop and a key figure in many of those future developments was James Ramsden, who joined Furness Railway on 29th January 1846 as Locomotive Superintendent. He had served an engineering apprenticeship with the famous locomotive builder Bury, Curtis and Kennedy of Liverpool and was 23 when he came to Barrow. He quickly established himself and over the next 50 years was a significant influence in most of the major developments in the town.

The railway commenced freight operations on the 3rd June 1846 and passenger operations the following year, with the Barrow terminus located at Rabbit Hill around what is now St Georges Square. The principal freight for the railways was initially iron ore. Following the building of the Barrow to Piel line, the railway extended to Dalton and Kirkby in 1846, then Broughton in 1848 and Ulverston in 1854. In 1863 the Furness Railway took over the Ulverston and Lancaster Railway which had already reached the west Coast main line in 1857, the latter being linked to Barnard Castle in 1861 so that the Durham coalfields were accessible for coal supplies to Barrow. In 1867 the railway was also linked to Sheffield which was an outlet for future steel products.

In 1853 the firm of Schneider and Hannay was founded, Schneider having already purchased the Whitriggs Mine, the royalties of the Mouzell Estate and Park Mine. In 1850 he discovered what turned out to be the most profitable deposits in the area at the Park Mine at what was a last and final test bore.

In 1859 Schneider and Hannay opened the Barrow Ironworks, to be followed in 1864 by the Barrow Haematite Steel Company Ltd with Henry Schneider, Lord Frederick Cavendish and James Ramsden as Directors. This in turn took over the Ironworks in 1866 to become the Barrow Haematite Iron and Steel Works. Five years later it was the biggest Iron and Steel Works in the world with 16 blast furnaces and 18 Bessemer converters, the Bessemer process having revolutionised steel production since it was developed in 1856. Unfortunately the Bessemer process had lost its commercial advantage by 1890 when new processors were developed for low grade and cheaper ores, which was significant for the local steelworks. Originally James Ramsden had suggested the idea of a steelworks to give the ships taking iron products to South Wales the opportunity to bring back coal and coke for the steelworks rather than coming back in ballast. As it turned out the steelworks exported steel rails all over the world which was also good for the future docks. It was ironic that the creation of the iron and steel industry resulted in it consuming the majority of the locally mined ore with a decreasing amount being available for export. It was not until 1936 that iron ore imports consistently exceeded the tonnage of local iron ore production. In the 1850's however the export of iron ore had grown to such an extent that the existing quays could not cope with the amount of shipping entering Barrow Channel between Barrow Island and the mainland. The Furness Railway obtained powers under the Furness and Barrow Harbour Act of 1863 to build the Devonshire and Buccleuch Docks with associated facilities and it repealed 2 earlier acts of 1848 and 1855 with the Furness Railway taking over their powers, liabilities and property.

Under James Ramsden's guidance the docks were built with Devonshire Dock being opened in 1867 and Buccleuch Dock in 1873 with James Ramsden as the first Docks Manager. At the first official opening, Liverpudlian William Gladstone – who was destined to become Liberal Prime Minister the following year, made comment “that someday

Barrow would be a Liverpool” – rather an optimistic comment given Barrow’s geographical remoteness I think.

Initially timber imports from Canada were encouraging with Potter Walker establishing a yard at Barrow. Steel rails, ore and pig iron was shipped out but the grand Furness Railway warehouse and bonded store was under utilised. In 1871 the Anchor Line started a Barrow – Glasgow service with 3 ships. In 1870, at James Ramsden’s instigation, he and the Duke of Devonshire founded the Barrow Flax and Jute Company to provide employment for women and young girls and the factory opened in 1874. Jute was imported from Calcutta via the newly opened Suez Canal, using the Eastern Steamship Companies ships. These ships had been built by the Barrow Shipbuilding Company that had been set up in 1872 by the Furness Railway Directors, which turned out to be one of their most successful ventures. The Eastern Steamship Company and the Barrow Steamship Company were both subsidiary companies of the new shipyard. Barrow Steam Cornmill was established in 1871 next to the Furness Warehouse with James Ramsden a director. Later it was to become Walmsley and Smith in 1880 and in 1903 it was purchased by Hutchinson, a Liverpool miller.

With the completion of the Buccleuch Dock in 1872, Ramsden continued with his plans for extending the docks with the creation of the Ramsden Dock and Cavendish Dock. The work proceeded slowly and it was not until 1879 that it was completed. Cattle sheds were built on the south side of the entrance for the Merchant Trading Company who imported cattle from America. The Ramsden Dock was connected to the rail network via a swing bridge across the Buccleuch Passage completed in 1879 and Ramsden Dock Station was opened in 1881.

Between 1877 and 1883 Piel Bar was dredged to 9’ below LW spring tide and the channel to Piel widened to 100’. The passage between the Devonshire and Buccleuch Docks was widened from 40’ to 80’ in 1878 and a high level opening bridge built across it which was opened in 1882. The Belfast Berth was dredged out in 1884/5 to provide a greater period. The final 25 years or so of the 19th century were unfortunately plagued by intermittent recessions in the Furness area, which made it necessary for some of the new Furness Railway enterprises to seek financial intervention from time to time and the Duke of Devonshire showed great social responsibility in this respect. The jute works suffered the setback of severe fires in 1879 and 1892 and following the latter the damaged areas were not rebuilt. It was sold in 1897 and finally closed after the First World War.

On the brighter side the independent Barrow Chemical Wood Pulp Company had a factory built at Salthouse that opened in 1890 and became Killner Partington Paper Pulp Company in 1892. In 1919 it became Barrow Paper Mills Ltd producing fine paper for the printing industry and its import of paper pulp was an important traffic for the port for very many years up to 1972. Oil importation commenced in 1888 and the following year oil storage tanks had been built on the Barrow Island side of Ramsden Dock. At the turn of the century several oil companies were using the port including Producers Petroleum Company, Anglo-American Oil and the Asiatic Petroleum Company. James Ramsden resigned as Managing Director of Furness Railway in 1895 and this marked the end of a great industrial era in Furness. He had – and I quote – turned a rural corner of England into a roaring, smoky, industrial centre, but the geographical remoteness prevented the realisation of Ramsden’s vision of Barrow being a Liverpool, Sheffield and Birmingham rolled into one.

Alfred Aslett, a very experienced and successful railway operator was appointed to the new post of general manager. His expertise was very much promoting passenger traffic and reducing costs. The Barrow – Fleetwood service, which had ceased in 1870, was restarted due to the popularity of Blackpool as a holiday resort by this time. The Furness Railway purchased the paddle steamer Lady Evelyn which arrived in Barrow in 1900 to start the service to Fleetwood. The Lady Margaret was added in 1903 and replaced by the Philomel in 1908, which in turn was replaced by the Gwalia in 1910, which became the Lady Moyra. By the end of 1912 Aslett had increased passenger bookings on Furness Railway by 53% and passenger revenue by 44%, which was crucial with the decline in freight traffic.

There were problems on the horizon however as the Midland Railway had obtained powers to build a rail link to Heysham in 1892 and then in 1895 deposited a bill in Parliament for a harbour at Heysham, which was built by 1904, with a Heysham to Belfast ferry service starting on Sept 1st 1904. This had a catastrophic effect on the Barrow route. It was agreed the Midland Company would buy the Barrow Steam Navigation Company and operate a thrice weekly service from Barrow to Belfast.

The Summer season of Isle of Man sailings were to be discontinued at the end of 1907. The start of the First World War then saw the requisition by the Admiralty of the Barrow to Belfast steamers City of Belfast and Duchess of Devonshire which was the end of the service.

With the sale in 1897 of the shipyard to Vickers Sons and Maxim Ltd, which was Vickers of Sheffield and Maxims the gun manufacturer based at Crayford in SE London, the shipyard commenced a campaign to dominate UK warship production. Vickers wrote to Furness Railway on 8th February 1899 expressing concern over the draft restrictions of the Ramsden Dock lock and the Railway Company agreed to lower the lock, sharing the expense with the shipyard. Subsidence during the works delayed completion which caused considerable concern to the shipyard as it delayed delivery of HMS Vengeance and prejudiced future orders. The shipyard also required the Buccleuch Dock Passage to be widened from 80' to 100' which was completed on 12th October 1908, with construction of a new bascule bridge over the passage. These costs added to the financial burden of the Furness Railway Company and in 1910 they considered, with Barrow Corporation, the possibility of a jointly owned Barrow Docks and Harbour Trust, but this was dropped by the Furness Railway Board. In 1911 following agreement with the shipyard the Walney Channel was widened to 300' and dredged to agreed depths with a deep water berth constructed in the Walney Channel. In 1916 Ramsden Dock Entrance at no 1 cill was lowered and the lifting and rolling bridge between Devonshire Dock and its basin replaced by a caisson. During the First World War the shipyard, the steel mill and hence Furness Railway and the docks were very busily engaged in the war effort under government control which was continued until August 1921.

In 1922 Furness Railway made an attempt to rejuvenate the regular Barrow-Fleetwood Steamer Service with the chartered steamer Robina but it made a loss and was never resumed, although there were occasional cruises and excursions. This was almost the last throw of the dice for the Furness Railway as they were taken over by the LMS with effect from 1st January 1923. Between the wars the port imported iron ore, grain, metals, petroleum products, timber, paper pulp and general merchandise. Exports included machinery, manufactured cast iron and steel products, pig iron, steel rails, pitch and general

cargo. In 1929 the oil storage tanks alongside Ramsden Dock became disused apart from requisition by the Government for strategic oil reserves during World War Two.

During World War Two the port was again busy in the war effort as were its customers but afterwards there was a slow period of decline. On 1st January 1948 the railways were nationalised and came under the control of the British Transport Commission until 1st January 1963 when the British Transport Docks Board took over operating the railway ports apart from the packet ports.

In 1967 the rail bridge across the Buccleuch Passage was taken out of service and removed about five years later. This was the start of a series of reductions in the rail network around the dock system.

There were also a significant number of factory closures which included the Ironworks on 31.3.63; the Cornmill in the 1960's; Barrow Paper Mills Ltd in 1972; the Steelworks in 1983. Trade was so bad that by the end of 1974, after two years of discussions with local interests, the port virtually closed to commercial shipping and all the cargo facilities were removed. The one good sign, however, was Bowater-Scotts decision to build a factory on Park Road in 1967/8 but they imported their paper pulp in bulk carriers too big for Barrow at that time. The port was kept open for the purposes of the shipyard and the BNFL traffic which had been handled at the shipyard quay since 1966. Barrow has a great record of survival however and within a few years the situation changed fairly rapidly. BNFL made a temporary move to the north side of the Buccleuch Dock from 1979 until 1982 when their purpose built facility, Ramsden Dock Terminal, came into operation with a heavy lift crane and a dedicated rail connection. The shipyard, which had become part of British Shipbuilders in 1977, completely renewed their main shipbuilding facility between 1982 and 1988 in preparation for the Trident Submarine build project. The west end of the Devonshire Dock and the original entrance were filled in with material from Roosecote Sands and the Devonshire Dock Hall and shiplift together with the new quays built on the reclaimed area as the first stage of the modernisation process. In the middle of the modernisation of the shipyard, Vickers was privatised with a management buy-out in 1986, the Docks Board having already been privatised with effect from 31st December 1982 when it became Associated British Ports with financial freedom from the Government. At the request of VSEL Associated British Ports then promoted the Associated British Port Barrow Act 1988 for powers to

- 1 Construct a new dock entrance 20' wider and 10' deeper than the then existing entrance.
- 2 Dredge the channel out to Lightning Knoll and to deepen it as required
- 3 Control navigation out to Lightning Knoll
- 4 Instal new navigation aids

All the work had to be completed by 31st December 1991 in readiness for the first sea trials of HMS Vanguard. We also had to dredge out the fairways in the Ramsden Dock Basin, Buccleuch Dock and Devonshire Dock, create a turning circle in the Ramsden Dock and a deep dive hole in the Devonshire Dock together with stopover facilities in the Ramsden Dock Basin. ABP also built a new warehouse on the south side of Anchor Line Basin for lease to VSEL for the storage of pipe work for the Trident submarines and this was completed in 1989. When VSEL no longer required this facility in 1995 it was used by Robert McBride for the storage of soap powder.

In order to manoeuvre the submarines safely through the docks and out to sea it was necessary to provide guidance bogies for the Devonshire Dock passage and the

Ramsden Dock lock, as well as a tide gauge monitoring system for the channel out to Lightning Knoll. We were also asked to provide a dock impounding system so the water levels in the dock could be brought up to specific levels. Altogether with the DDH these works were by far the biggest civil engineering project in the docks since the building of the Ramsden Dock and Anchor Line Basin in the 1870's and it was very satisfying for all concerned to complete them within costs and programme so that they were easily ready for the sailing of HMS Vanguard on sea trials in October 1992.

With the development of the Morecambe Bay gas fields in the early 1980's and the construction of the South Morecambe Onshore Terminal, British Gas needed a storage facility for the gas condensate which has to be extracted from the gas before it is pumped into the grid. The disused oil storage facility alongside the Ramsden Dock was an ideal location for this together with adequate waterside frontage for building a loading berth and these were to be leased from ABP. The first condensate was shipped out in 1986 for use in the solvent industry, with 5 storage tanks having been completely refurbished. In the 1990's when British Gas developed the North Morecambe field and built a further onshore terminal, they refurbished the remaining 6th tank at the storage depot.

In 1983 Tilcon started shipping out high quality limestone from Stainton Quarry to Odda in Norway where it was used in gas production and now it is shipped to Norrköping in Sweden where it is used in paper making.

In September 2006 Bardon commenced shipping out granite chipping from Gill Scour quarry near Millom to SE England to be used for road dressing. In May 2006 it was very pleasing to see Kimberly –Clark commence regular imports of paper pulp for their Barrow factory after a successful trial in 2005. This will take a significant number of road vehicles off the A 590 as well as being a boost for the port – when we look back to the period before 1972 when the wood pulp business had been the port's main traffic.

In addition to the more regular traffics the port has also handled some big offshore contracts and project cargoes over the past 20 years or so. There have been some very successful pipeline operations for British Gas and other offshore operators. The port has also handled some of the biggest loads to be moved on British roads when British Gas built their North Morecambe Onshore Gas Terminal in modular form. Roosecote Power Station brought their main turbines in through the port and they draw their cooling water from Cavendish Dock. The shipyard also moves colossal loads around Barrow Island when they move ship sections from one area of the yard to another. The offshore wind energy operators have used the port as a base which is ideally placed for the Irish Sea operations with large areas of storage land.

The customer who has the longest record of using the port is James Fisher and Sons plc, the local ship owner and shipping agent established in 1847. As well as being ship owners, in their time they have also been ship builders at Barrow and it is very pleasing to see them going from strength to strength. In 1996 the company bought the 21 vessels of P&O tankships and in 1997/8 they purchased three new coastal tankers from GEC Marine, built here at Barrow. More recently in 2006 they purchased Everards, the long established coastal shipping company who were operating 11 ships.

John Green

WHICH WAY BECK SIDE?

A NOTE ON REFURBISHING THE FOUR-ROAD-ENDS SIGNPOST IN KIRKBY IN FURNESS.

An idiot opens his mouth.

I am a parish councillor in the parish of Kirkby Ireleth and earlier this year, I noticed that a finger-post in the major hamlet in our parish was looking a bit dilapidated; in fact, one of the aluminium road number plates was flapping around in the wind, held on by only one screw.



Figure 1. nost in original state.

something: it is for posterity and the benefit of others who, when faced with a similar situation, can't keep their mouths shut either.

A sign of dilapidation.

This finger-post is at grid reference SD231824 and is on the cross-roads of the A595, between Barrow and Broughton, and

South Lakes District Council (SLDC) are responsible for signs in our area so we asked them if there was any chance of refurbishing the sign. Apparently not: SLDC policy is to uproot the old sign and put in a "barber's pole" but we were free to get it refurbished if we wished. Our Parish Clerk got a quote for £2400 from Signpost Restoration Limited in Brampton, and promptly needed resuscitation. To prevent the onset of a full coronary, I opened my big mouth and said I would have a look at it, which of course led to the expectation that I would do something. This note is a description of that

an ancient drive road, between Sandside and Ulverston. As you can see it, err, leans a bit. Suggestions were made involving, a tame farmer, tractors, chains and just holding the traffic for a minute or so to straighten it I decided to merely re-paint the thing as best as possible and allow a rumour to be spread that the tilt gives it character.

The main post is a tube of cast iron which seems to be embedded in the ground in a lump of concrete. "T Blackburn & Sons Preston" is cast down the side of the post. I do not know if the tube is closed at the top or if it was cast open and a round pin pressed in to this to allow the arm-carrying collars to be dropped over the top. Either way the sand core of the length needed to cast this must have been supported by pins which would be incorporated into the casting as it solidified.

All the collars dropped over the top have stubs sticking out on which wooden arms are mounted. All the collars are cast iron and are exactly the same but can be mounted over the

top either way up. By this method, any pair of collars the stubs overlap and stick out at the same height such that pairs of arms at a cross-roads are at the same height. I presume we want this so that each arm does not obscure another. Each stub has four holes to hold the arm in place. The holes seem to be jig-machined: to me they are too clean and too repeatable to have been cast in place. All the Collars have a hole in the side to carry a hex-head screw to tighten against the pole to stop the collar spinning on the pole. A post in the next parish includes collars without stubs: these have holes but no bolts. I suppose bolts are not needed because the collars do not carry arms and can be whatever way round they wish to fall; but why bother to cast the holes in the side?. On top of the four stub collars there is a cap with a fixing screw too.

The second collar down is cracked: this holds the Beck Side arm, so, could this be due to something reversing into it at some time in the past and also explain the list?

The arms were made of redwood onto which are screwed embossed aluminium name-plates.

Each arm was $1\frac{1}{2}$ - 2 inches thick and "enveloped" the stub to which it was attached. The Broughton and Beck Side arms are only as high as one of the name plates and the pocket for the stub in the pole-end of the arm is no more than a deep slot, open at the top and bottom.

However, the other two arms support two name plates, one above the other and are therefore deeper. These arms envelop the stub completely, sides, top and bottom, and are

made of two pieces of wood; a main body and capping piece. I believe this is to allow the pocket to be cut into the main body with some kind of mortis drill since there are marks on the inside which suggest this.

Characters for the names and numbers on the signs are embossed in aluminium sheet, similar to old fashioned car number plates - indeed they may be the same pattern as they are all capital. Each aluminium sheet is the same width but the strange thing is that they are of different length. For example, the sheet for Beck Side on one side of the arm is different to the sheet on the other. Also, the holes are in a different place for each sheet which suggests they were made by hand as needed and not in a modular fashion from standard pre-made sheets. It means too that each wooden arm was probably made to suit in the same way and were not of a standard size.

I took three different types of screw from the name-plates; modern cross-point steel (possibly galvanized), slotted steel screws (probably Japaned originally) and some were aluminium. All were pan-head. The steel screws had rusted and left streak marks on the name-plates and the aluminium screws had reacted with the wood and the threads had largely rotted away.

Since the aluminium name plates cover the holes where the arms are fitted to the stubs, whatever is used to fit the arms to the stubs must end up flush with the surface of the arms.

I'm not sure I can describe the mechanism clearly so please refer to Figure 2 as I try. The four holes in the arm are counter-bored on each side just deep enough to set a washer into them. A length of $\frac{1}{2}$ " iron (and I think this is wrought iron and not mild steel) is pushed through the first washer, one side of the arm, the hole in the stub inside the pocket of the arm and then out through the other side of the arm and the second washer on the far side. Each end of the bar is

"fluzzed" over to hold it in place with the washers. It may be that one end of the bar and one washer were mated together in this manner before assembly but I do not know. Since the arms were of varying thickness, the lengths of iron bar must have been made to suit each arm or perhaps

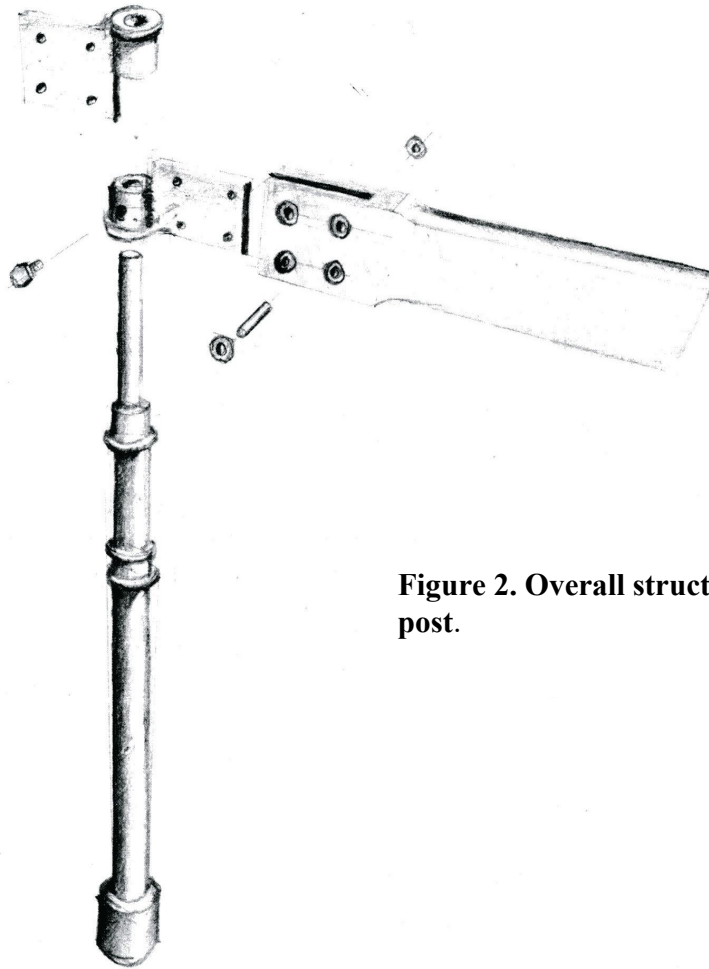


Figure 2. Overall structure of finger-post.

they were cut in situ? Did they originally rivet these in place whilst on the post? It must have been much easier to rivet the arms to the stubs in the workshop, screw on the name-plates and then drop the collar/arm combination over the post on site.

Take things apart.

Dismantling the arms was a bit of a hocker. You do not realize how big and potentially heavy these things are until you get up the ladder next to them. To get at the rivets holding the arms to the stubs you must first remove the name-plates. This is probably wise in any case since you are likely to damage them if you drop an arm

while they are still fitted. And, it was the thought of dropping an arm which made me cautious; you could get quite a clout or even have your ladder taken away by one of these items as they decide to swing off their perch. I therefore cobbled together a cradle out of a pair of old ladder rails and a couple of ropes to prevent anything happening too suddenly

The only way to take off the arms was to knock out the rivets with a hammer and punch. I was nervous about doing this as it would be too easy to crack the stub with an eager blow. Most rivets came out easily but I had to break the pocket of one arm to get at two of them and then cut these to take off a rusty tail before punching the remains through the stub. The arms were a snug fit on the stubs but came away with a bit of wiggling.

Battleship Grey seemed to have been the in colour for the last few coats of paint on the post, but it was badly blistered and they all came away quite easily with a sharp hand scraper: no need for a shot-blaster. On the way down through the layers it seemed as if it had been painted every combination of black and white in the past. I laid an old sheet around the base to catch the flakes. Also, I dug out the top sod around the base of the post to be able to clean up just below ground level.

I took the arms and aluminium name-plates home. The arms really were past it and had to be replaced but the paint came away from the name-plates with paint stripper, careful scraping, sugar soap and a pan scrub. It took a while though and if I were to do it again I would check on the price of getting them "dip-stripped" professionally.

Painting.

I took advice from Wardgroup in Barrow as to the best primer for the name-plates. Rather than using a self-etching primer (which can, I believe, irritate the skin) they suggested

Pegalink (<http://www.ro-m.com/asp/productgroup.asp?ID=1>), a water based primer. For the post they suggested coating the bare iron with Owatrol Oil

(http://www.owatrol.com/products/OwatrolOil2_pi.pdf) as a rust inhibitor and using Rust-Oleum CombiColor

(<http://www.ro-m.com/asp/productgroup.asp?ID=1>) as a top coat.

Painting the name-plates.

I brushed on the Pegalink as the primer on the name-plates as suggested and it seems to hold fine to the bare aluminium. I later found that my local garage could have applied the self-etch primer for me. Whether the Pegalink is up to the job will only show with time. I then brush applied two coats of white, smooth finish CombiColor. For the black lettering I used black, satin finish CombiColor. I found that stray hairs from a brush did not leave a clean edge to the line of paint for the lettering and so used one of those finger sponge brushes which can be stroked over the top of the embossed characters. Paint the post. Straight after scraping down the post, I went over it with a dry rag to knock off the dust and gave it a coat of the Owatrol. This dries to what seems like quite a hard finish. I was told that I could use the Pegalink as a primer over the Owatrol but found it "curdled" on contact. So, I used some old aluminium loaded Dulux metal primer that was lying around, then put two coats of smooth finish CombiColor on top of these, painting below ground level where I had taken out the sod.

The hard part of painting the post was finding the original combination of black and white. Eventually I found a photograph of a pub in the next hamlet on the History of Kirkby Group website, from what we believe was 80-90 years ago; this included a post of the same design.

A later photograph of Newby Bridge (provided by Mike Lea) has the same post and colour scheme. Of course, these pictures are black and white and I am assuming the colours depicted are also black and white and not, say, some dark shade of red.

Make the arms.

The original arms were as in Figure 3. I do not have the tools to make the pockets as in the original, nor any wood like this. Figure 4 shows the options I thought I had for the arms and decided that option 1 using the marine-ply sandwich was the best as it only needed simple tools to make.



Figure 3.Original arms for double name plate.

My other stray from the original was the method of attaching the arms to the stubs. The original bars used as rivets seemed to be wrought iron. This is not a common material these days and making the counter-bore to sink the washers left quite a thin piece of wood trapped between the stub and washer which seemed to be the starting point for some of the cracking in the arms I removed. The ideas for this can be seen in Figure 5. In the end I opted for 12mm threaded bar with screw slots cut in one end (option 7.). It is easily available, galvanized, easy to make, and the post is 5/8" thick the centre sheet of ply would have should be easier to put together than whacking bits of iron and washer into place whilst up a ladder. Since the stub on to be at least that thick. The nearest I could get was 18mm so ordered a 2.44m by 1.22m sheet of that and was able to cut all the outlines needed from that single sheet. To drill the mounting holes I made up a pattern by clamping an old off-cut of wood to one of the stubs, marking the outline and partially cutting holes in the wood using the stub as a guide. It was most uncomfortable using a brace and bit up the ladder (I don't own one of these battery powered things) so finished off the holes back home with a 7/16" bit. I also cut the outline of the stub to mark up the centre ply sheet for the two deep arms with closed top and bottom. Figure 8. Dual use jig for cutting holes and threaded bar. I used the pattern to cut the slot in the middle sheet and to drill the holes in the outer sheets but with a 7/16" bit, to allow the threaded bar to bite into the walls of the holes. Before gluing I coated the areas which would form the inside of the pocket with the Owatrol. I used an exterior quality adhesive and temporary screws to hold them firmly whilst the glue set and

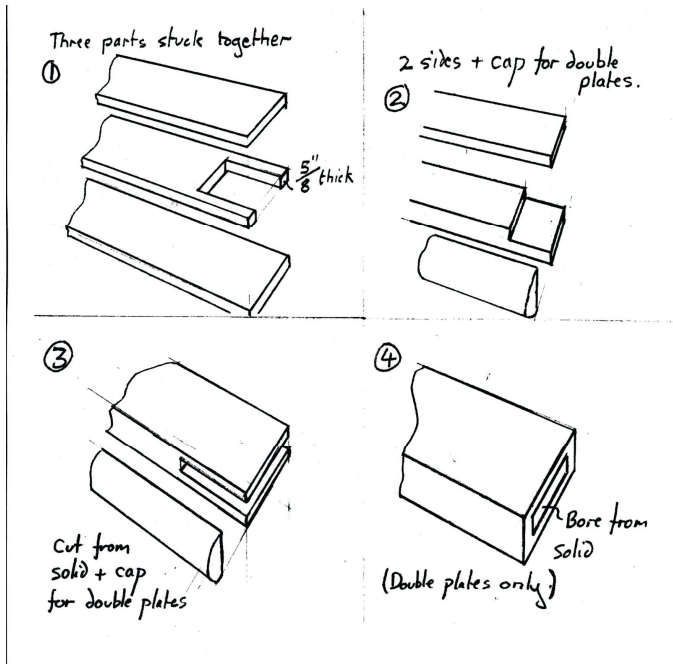


Figure 4 Options for making arms for name plates.

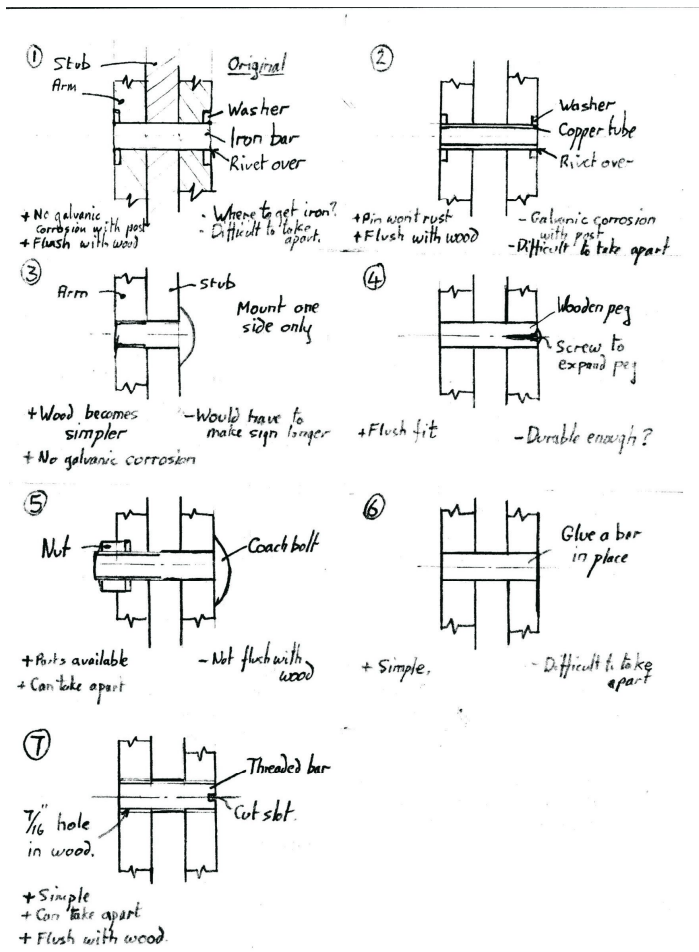


Figure 5. options for mounting arms to stubs.

four pieces of the threaded bar through the holes for alignment. After carving a dome on the upper edges they were ready for painting.

I had some Owatrol left so used it to seal the end grain of the wood (along the top, bottom and end faces of the arms) and then, once dry, a coat of some old aluminium based primer on these areas. I then used the Pegalink as a primer for the whole arm, undercoat with some Johnstone's white undercoat and finish off with Dulux gloss white.

Assemble the arms to the post.

Imagine you are facing the post with one of the arms over your shoulder. Whilst up the ladder you wish to do as little as possible so the name plates to the left of the arm as you hold it should be screwed to the arm. I did this because I am right handed and wanted to part insert the short threaded bars into the holes before climbing the ladder with the arm over my shoulder, slotting the arm over the stub and screwing the threaded bars through the holes in the stubs. I found that for the arms carrying a single plate I could attach the plates to both sides and still access the threaded bars. For the doubles, I had to attach the two name-plates on the right of the arm after mounting on the post.

Well, that was the theory. As a slight modification, I left out one of the threaded bars so as to quickly pop a small screwdriver through the hole and use this to align with the hole in the collar stub. Push the screwdriver right through the other side of the arm and it will temporarily hold it in place whilst aligning and screwing in the other threaded bars. Take out the screwdriver and screw the last bar in here. I used stainless steel screws of the same size as the aluminium ones to hold the name-plates to the arms. They are available from Ace Fixings in Penrith for 18p each + VAT. Should

they be covered with a dab of white paint perhaps?

To finish the arms, I put a dab of paint over the exposed ends of the threaded bars.

The ladder damaged the white paint on the post a little so I gave the post a quick rub down with glass paper and a final coat of CombiColor.

Comments.

Final material costs were around £150.

Thanks to Eric for trimming one of the arms.



Figure 6. The end result.

If I were to do this again, I would:

- Get the aluminium name-plates dip stripped if possible.
- Get the local garage to apply self-etching primer to the name-plates.
- Use 9mm marine-ply for the outer sheets of the arms. Three sheets of 18mm clapped together make very heavy arms.
- Hide the sod you take out from around the post or someone will tidy it away.
- Make up a pattern for the holes from thicker wood (over 25mm), drill the holes with a machine to make sure they are perpendicular to the face and so act as a better guide for drilling the holes in the arm. One of my holes was so far out that the Beck Side arm is only held in with three

pieces of bar and a wooden peg to fill the remaining hole.

- Get a "frigidal" camera to take some pictures. Many thanks to Elaine for the before and after shots, Gerry for the loan of her camera and Mike Lea for his shot of the original arm.

Slinger August 2009.

TO REMEMBER MIKE DAVIES SHIEL

The Society has been entrusted with the remarkable and irreplaceable collection of slides and photographs of mainly Cumbrian industrial archaeological sites and artefacts assembled during years of research by Mike Davies Shiel. Plans are afoot to ensure the cataloguing and digitisation of this wonderful archive so that both its preservation is assured and the material made generally accessible. Your Committee has already committed £500 from the Society's reserve to launch a fund to enable this ask and now invites contributions from members and other friends of Mike who share a wish to see that this aspect of his life's work is preserved, appreciated and used.

Contributions, marked CIHS [MD-S Memorial], should be sent to:-

The Treasurer: CIHS, Eymore, 17 Railway Terrace,
Lindal in Furness, Cumbria LA12 0LQ

After the interest that was shown in the special Bulletin in memory of Mike we do now have available on CD more of his famous handouts, copies of his famous Christmas cards and also copies of editions 1 – 11 of the Lakeland Industrial Archaeology Newsletter. This was edited by Mike in the late 1960's early 1970's and contains a number of articles on various regions in the county and the industrial remains in the area. Also shows how some of the knowledge we now have on industrial remains in county was put together.

Copies are available from the Editor price £5.00 including p&p. £4 from each CD will go to the fund for digitalising the slides.

The handouts include

Ambleside Mills	Backbarrow iron works
Borrowdale volcanoes	Charcoal Blast furnaces
Cockermouth mills	Cumbrian Industries
Cumbrian Races and Settlement	Duddon furnace
Fell settlement patterns	Furness woodland industries
German miner names	Hoggett smelt mill
Iron Working	Iron industry in Cumbria map
Keswick Mills 2	Mineral Veins
Glass furnace site	Potash Kiln
South Cumbria forges	Cumbrian word derivations
Workington Iron and steel works	Hartsop corn mill
Mike's learning curve.	

WEB SITES

The British Geological survey have recently launched a site with free access to both their geology maps of Great Britain but also some of their massive collection of photographs of their geological features. A lot of these photos are taken at quarry and mine sites and show detail of the workings as well as the geology.

The site is available at <http://www.bgs.ac.uk/opengeoscience/>

Examples of a couple of photographs that came up on a quick search of the site for Cumbrian industries are shown. This site has a great potential for anyone researching extractive industries.



COCKLAKES GYPSUM QUARRY AND ADIT ENTERANCE .



FISHER EAST END BURLINGTON SLATE QUARRY 1935.

CHRISTMAS QUIZ

No prizes for guessing the location of this mine?



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